

L Number	Hits	Search Text	DB	Time stamp
1	12	(3,798,012 4,200,545 4,659,338 4,663063 4,668,247 "4724091" 4,740,321 4,781,730 4,804.389 5,133,900 5,169,564 5,344,467 5,376,154).pn.	USPAT; US-PGPUB	2003/09/20 13:03
2	11	((3,798,012 4,200,545 4,659,338 4,663063 4,668,247 "4724091" 4,740,321 4,781,730 4,804.389 5,133,900 5,169,564 5,344,467 5,376,154).pn.) and (sulfonate or sulphonate)	USPAT; US-PGPUB	2003/09/20 13:03
3	0	((3,798,012 4,200,545 4,659,338 4,663063 4,668,247 "4724091" 4,740,321 4,781,730 4,804.389 5,133,900 5,169,564 5,344,467 5,376,154).pn.) and (sulfonate or sulphonate)) and alkylbenzenesulfonate	USPAT; US-PGPUB	2003/09/20 13:04
4	394	perbenzoate and fuel	USPAT; US-PGPUB	2003/09/20 13:09
5	78	(perbenzoate and fuel) and sulfonate	USPAT; US-PGPUB	2003/09/20 13:09
-	124772	peroxide	USPAT; US-PGPUB	2003/09/20 12:17
-	38	lithium with alkylbenzenesulfonate	USPAT; US-PGPUB	2003/09/20 13:04
-	0	((3,798,012 4,200,545 4,659,338 4,663063 4,668,247 "4724091" 4,740,321 4,781,730 4,804.389 5,133,900 5,169,564 5,344,467 5,376,154).pn.) and (peroxide and (lithium with alkylbenzenesulfonate))	USPAT; US-PGPUB	2003/09/20 12:35
-	0	(peroxide and (lithium with alkylbenzenesulfonate)) and 44/\$.ccls.	USPAT; US-PGPUB	2003/09/20 12:29
-	20	peroxide and (lithium with alkylbenzenesulfonate)	USPAT; US-PGPUB	2003/09/20 12:26
-	6510	perbenzoate	USPAT; US-PGPUB	2003/09/20 13:09
-	0	(lithium with alkylbenzenesulfonate) and perbenzoate	USPAT; US-PGPUB	2003/09/20 12:27
-	253	2-butanone same peroxide	USPAT; US-PGPUB	2003/09/20 12:29
-	0	(lithium with alkylbenzenesulfonate) and (2-butanone same peroxide)	USPAT; US-PGPUB	2003/09/20 12:28
-	60	lithium same alkylbenzenesulfonate	USPAT; US-PGPUB	2003/09/20 12:28
-	0	(lithium same alkylbenzenesulfonate) and (perbenzoate or (2-butanone same peroxide))	USPAT; US-PGPUB	2003/09/20 12:29
-	79	perbenzoate and 44/\$.ccls.	USPAT; US-PGPUB	2003/09/20 12:29
-	0	(2-butanone same peroxide) and 44/\$.ccls.	USPAT; US-PGPUB	2003/09/20 12:30
-	480	butanone same peroxide	USPAT; US-PGPUB	2003/09/20 12:29
-	0	(butanone same peroxide) and 44/\$.ccls.	USPAT; US-PGPUB	2003/09/20 12:30
-	43	butanone and 44/\$.ccls.	USPAT; US-PGPUB	2003/09/20 12:30
-	0	(lithium same alkylbenzenesulfonate) and ((butanone same peroxide) or (butanone and 44/\$.ccls.))	USPAT; US-PGPUB	2003/09/20 12:31
-	1	((3,798,012 4,200,545 4,659,338 4,663063 4,668,247 "4724091" 4,740,321 4,781,730 4,804.389 5,133,900 5,169,564 5,344,467 5,376,154).pn.) and peroxide	USPAT; US-PGPUB	2003/09/20 12:34
-	0	((3,798,012 4,200,545 4,659,338 4,663063 4,668,247 "4724091" 4,740,321 4,781,730 4,804.389 5,133,900 5,169,564 5,344,467 5,376,154).pn.) and (lithium with alkylbenzenesulfonate)	USPAT; US-PGPUB	2003/09/20 12:35
-	11	((3,798,012 4,200,545 4,659,338 4,663063 4,668,247 "4724091" 4,740,321 4,781,730 4,804.389 5,133,900 5,169,564 5,344,467 5,376,154).pn.) and sulfonate	USPAT; US-PGPUB	2003/09/20 12:35

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 NEWS 4 Jul 15 Data from 1960-1976 added to RDISCLOSURE
 NEWS 5 Jul 21 Identification of STN records implemented
 NEWS 6 Jul 21 Polymer class term count added to REGISTRY
 NEWS 7 Jul 22 INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
 NEWS 8 AUG 05 New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
 NEWS 9 AUG 13 Field Availability (/FA) field enhanced in BEILSTEIN
 NEWS 10 AUG 15 PATDPAFULL: one FREE connect hour, per account, in September 2003
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 NEWS 16 AUG 18 FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation
 NEWS 17 AUG 18 Simultaneous left and right truncation added to ANABSTR
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FILE COVERS 1907 - 20 Sep 2003 VOL 139 ISS 13

FILE LAST UPDATED: 19 Sep 2003 (20030919/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s peroxide and (sulfonate or sulphonate)
    174932 PEROXIDE
    41465 PEROXIDES
    190825 PEROXIDE
        (PEROXIDE OR PEROXIDES)
    51247 SULFONATE
    17026 SULFONATES
    60155 SULFONATE
        (SULFONATE OR SULFONATES)
    200 SULPHONATE
    38 SULPHONATES
    233 SULPHONATE
        (SULPHONATE OR SULPHONATES)
L1    1015 PEROXIDE AND (SULFONATE OR SULPHONATE)

=> s l1 and (fuel or gasoline or gasolene or petro)
    320335 FUEL
    150143 FUELS
    367891 FUEL
        (FUEL OR FUELS)
    63237 GASOLINE
    5268 GASOLINES
    63648 GASOLINE
        (GASOLINE OR GASOLINES)
    100 GASOLENE
    435 PETRO
    10 PETROS
    445 PETRO
        (PETRO OR PETROS)
L2    33 L1 AND (FUEL OR GASOLINE OR GASOLENE OR PETRO)

=> d l2 1-33 all

L2    ANSWER 1 OF 33  CAPLUS  COPYRIGHT 2003 ACS on STN
Full Text
AN    2003:656487  CAPLUS
DN    139:175186
TI    Stable aqueous hydrogen peroxide disinfectants with enhanced
      antimicrobial activity
IN    Ramirez, Jose A.; Omidbakhsh, Navid
PA    Virox Technologies Inc., Can.
SO    PCT Int. Appl., 37 pp.
```

STN Columbus

CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM A01N059-00
 ICS A01N025-30
 CC 5-2 (Agrochemical Bioregulators)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003067989	A1	20030821	WO 2003-CA196	20030212
	<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM</p> <p>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG</p>				
PRAI	US 2002-355753P	P	20020212		
AB	<p>An enhanced activity aq. disinfecting soln. having a pH of from about 0.5 to about 6 and consists essentially of (i) hydrogen peroxide in a concn. of from about 0.05 to about 8 wt./wt.% of the soln.; (ii) at least one anionic surfactant selected from the group consisting of C8-C16 alkyl aryl sulfonic acids and alkali metal, ammonium, ethanolamine, calcium and magnesium salts thereof, sulfonated C12-C22 carboxylic acids and alkali metal, ammonium, calcium and magnesium salts thereof, C6-C22 alkyl di-Ph oxide sulfonic acids and alkali metal, ammonium, ethanolamine, calcium and magnesium salts thereof, naphthalene sulfonic acids and alkali metal, ammonium, calcium and magnesium salts thereof, C8-C22 alkyl sulfonic acids and alkali metal, ammonium, calcium and magnesium salts thereof, alkali metal, ammonium, calcium and magnesium C8-C18 alkyl sulfates, alkyl or alkenyl esters or diesters of sulfosuccinic acid in which the alkyl or alkenyl groups independently contain from six to eighteen carbon atoms and alkali metal, ammonium, calcium and magnesium salts thereof, and mixts. thereof, in a concn. range of from about 0.02 to about 8 wt./wt.% of the soln. Optionally, the soln. may contain (iii) at least one addnl. ingredient chosen from a monocarboxylic acid, a polycarboxylic acid, and mixts. thereof, in a concn. of from about 0.05 to about 4 wt./wt.% of the soln.; and (iv) at least one further addnl. ingredient chosen from benzyl alc., an alc. comprising one to six carbon atoms, and mixts. thereof, in a concn. of from about 0.1 to about 10 wt./wt.% of the soln.</p>				
ST	hydrogen peroxide disinfectant antimicrobial stability surfactant				
IT	Alcohols, biological studies				
	<p>RL: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)</p> <p>(C1-6; in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)</p>				
IT	Carboxylic acids, biological studies				
	<p>RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)</p> <p>(C12-C22, sulfonated, salts; in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)</p>				
IT	Carboxylic acids, biological studies				
	<p>RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)</p> <p>(C12-C22, sulfonated; in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)</p>				

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- IT Sulfonic acids, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (C13-17-sec-alkanesulfonic, sodium salts; in stable hydrogen
 peroxide disinfectants contg. anionic surfactants with enhanced
 antimicrobial activity)
- IT Alcohols, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (C6-10, ethoxylated, Surfonic L 610-3, Alfonic L 610-3.5; in stable
 hydrogen peroxide disinfectants contg. anionic surfactants
 with enhanced antimicrobial activity)
- IT Sulfates, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (C8-C18 alkyl; in stable hydrogen peroxide disinfectants
 contg. anionic surfactants with enhanced antimicrobial activity)
- IT Sulfonic acids, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (alkanesulfonic, C8-C22, salts; in stable hydrogen peroxide
 disinfectants contg. anionic surfactants with enhanced antimicrobial
 activity)
- IT Sulfonic acids, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (alkanesulfonic, C8-C22; in stable hydrogen peroxide
 disinfectants contg. anionic surfactants with enhanced antimicrobial
 activity)
- IT Sulfonic acids, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (alkyl di-Ph oxide, salts; in stable hydrogen peroxide
 disinfectants contg. anionic surfactants with enhanced antimicrobial
 activity)
- IT Sulfonic acids, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (alkyl di-Ph oxide; in stable hydrogen peroxide disinfectants
 contg. anionic surfactants with enhanced antimicrobial activity)
- IT Sulfonic acids, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (alkylarene, C8-C16, salts; in stable hydrogen peroxide
 disinfectants contg. anionic surfactants with enhanced antimicrobial
 activity)
- IT Sulfonic acids, biological studies
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (alkylarene, C8-C16; in stable hydrogen peroxide
 disinfectants contg. anionic surfactants with enhanced antimicrobial
 activity)
- IT Surfactants
 (in stable hydrogen peroxide disinfectants contg. anionic
 surfactants with enhanced antimicrobial activity)
- IT Carboxylic acids, biological studies
 Naphthalenesulfonic acids
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use);
 BIOL (Biological study); USES (Uses)
 (in stable hydrogen peroxide disinfectants contg. anionic
 surfactants with enhanced antimicrobial activity)
- IT Carboxylic acids, biological studies

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RL: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
 (polycarboxylic; in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)

IT Naphthalenesulfonic acids
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)
 (salts; in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)

IT Antimicrobial agents
 Disinfectants
 (stable aq. hydrogen peroxide disinfectants with enhanced antimicrobial activity)

IT 5324-84-5, Sodium octyl sulfonate
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)
 (Biocerge PAS 8; in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)

IT 64-19-7, Acetic Acid, biological studies 151-21-3, Stepanol WAC, biological studies 151-41-7D, derivs. 577-11-7, Aerosol OT-75 1643-20-5, Ammonyx LO 2235-54-3, Stepanol AM 2373-23-1D, Dioctyl sulfosuccinate, derivs. 5138-18-1D, Sulfosuccinic acid, alkyl or alkenyl esters or diesters, and salts 9002-93-1, Triton X-405 11138-66-2, Ketrol RD 27176-87-0, Biosoft S-100 27176-87-0D, Dodecylbenzenesulfonic acid, salts 53633-54-8, Polyquaternium 11 58450-52-5, Stepan Mild SL3 59763-42-7, Petro ULF 61332-13-6, Dowfax 67953-76-8, BRIQUEST ADPA-60AW 157969-79-4, Standapol LF 163663-07-8, Alpha-Step MC 48 172867-66-2, Dowfax C10L 581067-99-4, Mirataine C 30
 RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)
 (in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)

IT 77-92-9, Citric Acid, biological studies 100-51-6, Benzyl alcohol, biological studies
 RL: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
 (in stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)

IT 7722-84-1, Hydrogen peroxide, biological studies
 RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (stable hydrogen peroxide disinfectants contg. anionic surfactants with enhanced antimicrobial activity)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) 7 L Corp; WO 9304664 A 1993 CAPLUS
 (2) Greene, D; US 4557898 A 1985 CAPLUS
 (3) Lin, Z; WO 9927066 A 1999 CAPLUS

L2 ANSWER 2 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 2003:414164 CAPLUS
 DN 138:404346
 TI Polymer-stabilized precious metal colloids insensitive to oxidation
 IN Bender, Michael; Wessel, Helge
 PA BASF Aktiengesellschaft, Germany
 SO Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM H01M004-92

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ICS B01J035-00; B01J013-00; B01J023-40; C01B015-023; C01B015-029
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38, 49, 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1315221	A2	20030528	EP 2002-26398	20021126
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	DE 10157916	A1	20030605	DE 2001-10157916	20011126
	US 2003100443	A1	20030529	US 2002-303830	20021126
	JP 2003226905	A2	20030815	JP 2002-342611	20021126
PRAI	DE 2001-10157916	A	20011126		
AB	An oxidn.-insensitive polymer-stabilized precious metal colloid contains precious metal particles on whose surfaces is coordinated 21 polymer contg. sulfonic acid or phosphonic acid groups. The polymer is selected from sulfonated, partially fluorinated, or fluorinated polystyrene; sulfonated, partially fluorinated, or fluorinated alkylene/styrene copolymers; sulfonated perfluorinated alkylene/alkylene oxide copolymer, sulfonated polystyrene, sulfonated polyarylene oxide, sulfonated polyarylene ether sulfonate, sulfonated polyarylene ether ketones, sulfonated polyphenylene, sulfonated polyphenylene sulfide, and phosphonated arylene oxides and phosphonated polybenzimidazoles; whereby the polymers may contain other substituents. The precious metal catalysts find application as fuel cell electrocatalysts, as catalysts in H2O2 synthesis, or as oxidn. catalysts.				
ST	fuel cell electrocatalyst polymer stabilized precious metal colloid; hydrogen peroxide manuf catalyst polymer stabilized precious metal colloid; oxidn catalyst polymer stabilized precious metal colloid				
IT	Polyolefins RL: TEM (Technical or engineered material use); USES (Uses) (copolymer with styrene, fluorinated or sulfonated; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)				
IT	Catalysts (electrocatalysts; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)				
IT	Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); PREP (Preparation) (fluorine- and sulfo-contg., ionomers; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)				
IT	Polybenzimidazoles RL: TEM (Technical or engineered material use); USES (Uses) (phosphonated or sulfonated; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)				
IT	Colloids Fuel cells Oxidation catalysts (polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)				
IT	Noble metals RL: CAT (Catalyst use); USES (Uses) (polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)				
IT	Polyoxyarylenes RL: TEM (Technical or engineered material use); USES (Uses) (polyoxyalkylene-, perfluorinated or sulfonated; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)				
IT	Fluoropolymers, preparation RL: IMF (Industrial manufacture); PREP (Preparation)				

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(polyoxyalkylene-, sulfo-contg., ionomers; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

IT Ionomers
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyoxyalkylenes, fluorine- and sulfo-contg.; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyoxyarylene-, perfluorinated or sulfonated; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

IT Polyoxyarylenes
Polythiophenylenes
RL: TEM (Technical or engineered material use); USES (Uses)
(sulfonated; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

IT Silicates, uses
Zeolites (synthetic), uses
RL: CAT (Catalyst use); USES (Uses)
(support; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

IT 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses
RL: CAT (Catalyst use); USES (Uses)
(polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

IT 100-42-5D, Styrene, copolymer with alkylene, fluorinated or sulfonated 9003-53-6D, Polystyrene, fluorinated 9003-53-6D, Polystyrene, sulfonated
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

IT 1314-23-4, Zirconia, uses 1344-28-1, Alumina, uses 7440-44-0, Carbon, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses
RL: CAT (Catalyst use); USES (Uses)
(support; polymer-stabilized precious metal colloids insensitive to oxidn. for fuel cell electrocatalysts)

L2 ANSWER 3 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 2003:135360 CAPLUS

DN 138:140031

TI Preparation of proton exchange membrane of poly(vinylidene difluoride)-grafted polystyrene sulfonate

IN Qiu, Xinpeng; Shi, Meng; Su, Xingye; Huang, Yuying; Zhu, Wentao; Chen, Liqun; Ren, Jiuyu

PA Qinghua Univ., Peop. Rep. China

SO Faming Zhuanli Shengqing Gongkai Shuomingshu, 6 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

IC ICM H01M008-10

CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	CN 1330425	A	20020109	CN 2001-129698	20010629
PRAI	CN 2001-129698		20010629		

AB The process comprises: (1) refluxing a methylpyrrolidone soln. of poly(vinylidene difluoride) (concn. 1-300 g/L) at the boiling temp. of methylpyrrolidone for 0.5-5 h, (2) cooling the soln. to 90 Φ , adding benzoyl peroxide (initiator) and styrene (monomer) at a ratio of benzoyl

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peroxide:poly(vinylidene difluoride) 1:100-1000 and that of
styrene:poly(vinylidene difluoride) 1:1-50 to the methylpyrrolidone soln.,
holding at 90Φ' for 1-5 h, and cooling to room temp., (3) adding
trichloromethane to the soln. until completion of the pptn. of the
reaction product, extg. the ppts., washing with trichloromethane several
times, and drying the ppts. at 80-100Φ', (4) dissolving the obtained
ppts. in methylpyrrolidone to a concn. 1-300 g/L, pouring the obtained
soln. on a glass plate and drying to form a film 45-55 Φmm thick, and
(5) sulfonating the obtained film in 1,2-dichloroethane soln. of 0.01-0.1M
chlorosulfonic acid and rinsing with deionized water. The poly(vinylidene
difluoride) is pretreated by refluxing in an ethanol soln. of 0.01-5M KOH
or NaOH for 0.5-5 h.

ST polyvinylidene fluoride grafting polystyrene sulfonate proton exchange
membrane

IT Fuel cells
Membranes, nonbiological
(prepn. of proton exchange membrane of poly(vinylidene
difluoride)-grafted polystyrene sulfonate)

IT Fluoropolymers, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of proton exchange membrane of poly(vinylidene
difluoride)-grafted polystyrene sulfonate)

IT 94-36-0, Benzoyl peroxide, reactions 24937-79-9,
Poly(vinylidene difluoride) 50851-57-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of proton exchange membrane of poly(vinylidene
difluoride)-grafted polystyrene sulfonate)

L2 ANSWER 4 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 2002:332665 CAPLUS

DN 136:357314

TI Low temperature sorbents for removal of sulfur compounds from fluid feed
streams such as LPG and natural gas

IN Siriwardane, Ranjani

PA USA

SO U.S. Pat. Appl. Publ., 9 pp.
CODEN: USXXCO

DT Patent

LA English

IC ICM B01J020-04
ICS B01J020-20

NCL 502244000

CC 51-5 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2002052291	A1	20020502	US 1999-409070	19990930
PRAI	US 1999-409070		19990930		

AB A sorbent material is provided comprising a material reactive with sulfur,
a binder unreactive with sulfur and an inert material, wherein the sorbent
absorbs the sulfur at temps. between 30 and 200°. Sulfur absorption
capacity as high as 22 wt. percent was obsd. with these materials.

ST sorbent sulfur removal hydrocarbon gas

IT Cement
Molasses
(binder; low temp. sorbents for removal of sulfur compds. from fluid
feed streams such as LPG and natural gas)

IT Bentonite, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; low temp. sorbents for removal of sulfur compds. from fluid
feed streams such as LPG and natural gas)

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- IT Petroleum products
(gases, liquefied; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT Fuel gas manufacturing
Sorbents
(low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT Natural gas, processes
RL: CPS (Chemical process); EPR (Engineering process); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT Aluminosilicates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(porous support, porous support, binder; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(porous support; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT Sand
RL: TEM (Technical or engineered material use); USES (Uses)
(support; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT 1318-74-7, Kaolinite, uses 8062-15-5, Lignin sulfonate
9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-64-2, Hydropropyl cellulose 9004-65-3, Hydroxypropyl methyl cellulose 9005-25-8, Starch, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT 110-01-0, Tetrahydro thiophene 463-58-1, Carbonyl sulfide 7704-34-9, Sulfur, processes 7783-06-4, Hydrogen sulfide, processes
RL: REM (Removal or disposal); PROC (Process)
(low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT 7778-18-9, Calcium sulfate
RL: TEM (Technical or engineered material use); USES (Uses)
(porous support, binder; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT 1314-23-4, Zirconia, uses 1344-28-1, Alumina, uses 1344-95-2, Calcium silicate 7440-44-0, Carbon, uses 7487-88-9, Magnesium sulfate, uses 7631-86-9, Silica, uses 10103-46-5, Calcium phosphate 11126-29-7, Zinc silicate 13463-67-7, Titania, uses 37275-76-6, Zinc aluminate
RL: TEM (Technical or engineered material use); USES (Uses)
(porous support; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT 298-14-6, Potassium bicarbonate 1309-33-7, Iron (III) hydroxide 1309-37-1, Ferric oxide, uses 1310-65-2, Lithium hydroxide 1310-82-3, Rubidium hydroxide 1313-60-6, Sodium peroxide 1314-13-2, Zinc oxide, uses 1317-38-0, Copper (II) oxide, uses 55204-38-1, Zinc oxide hydrate
RL: TEM (Technical or engineered material use); USES (Uses)
(reactant; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)
- IT 20427-59-2, Copper hydroxide
RL: TEM (Technical or engineered material use); USES (Uses)
(sorbent, reactant; low temp. sorbents for removal of sulfur compds. from fluid feed streams such as LPG and natural gas)

L2 ANSWER 5 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

STN Columbus

AN 2001:423747 CAPLUS
 DN 135:7643
 TI Preparation of energy-saving additive for heavy oil
 IN Tang, Lijing
 PA Peop. Rep. China
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 4 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 IC ICM C10G031-08
 CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1271760	A	20001101	CN 2000-103245	20000320
	CN 1115383	B	20030723		
PRAI	CN 2000-103245		20000320		
AB	The additive contains activated carbon 5-8, KMnO4 2-4, agar 5-8, soft soap 16-27, Na lauryl benzene sulfonate 3-10, H2O2 5-10, NH4ClO4 5-10, pentaerythritol 6-16, oil fat 10-20, KNO3 5-10 and NaNO3 3-8%. The additive is manufd. by mixing soft soap, oil fat, agar and Na lauryl benzene sulfonate, heating to about 40°, stirring, adding other raw materials, heating to 60°, stirring for 15 min, and cooling. The addn. of additive can save energy by 15%.				
ST	fuel additive heavy oil				
IT	Fuel additives Fuel oil Fuel oil additives (energy-saving additive for heavy oil)				
IT	Petroleum, processes RL: PEP (Physical, engineering or chemical process); PROC (Process) (heavy; energy-saving additive for heavy oil)				
IT	7440-44-0, Activated carbon, uses RL: MOA (Modifier or additive use); USES (Uses) (activated; in energy-saving additive for heavy oil)				
IT	115-77-5, Pentaerythritol, uses 7631-99-4, Sodium nitrate, uses 7722-64-7, Potassium permanganate 7722-84-1, Hydrogen peroxide, uses 7757-79-1, Potassium nitrate, uses 7790-98-9, Ammonium perchlorate 25155-30-0, Sodium lauryl benzene sulfonate RL: MOA (Modifier or additive use); USES (Uses) (in energy-saving additive for heavy oil)				

L2 ANSWER 6 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 2000:421486 CAPLUS
 DN 133:19132
 TI Process for producing alkanesulfonate salts from the gas of a refinery plant
 IN Gao, Lin; Liu, Jiong
 PA Xinjiang Inst. of Chemistry, Chinese Academy of Sciences, Peop. Rep. China
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 5 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 IC ICM C07C309-04
 ICS C07C303-32
 CC 46-3 (Surface Active Agents and Detergents)
 Section cross-reference(s): 23, 51

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1218799	A	19990609	CN 1997-123334	19971205

STN Columbus

CN 1062556 B 20010228
 PRAI CN 1997-123334 19971205
 AB A process comprises oligomerizing catalytically C3-4 mixed alkane-alkenes to obtain C5-25 branched olefins, mixing with NaHSO₃, Bz₂O₂, Co(OAc)₂, isopropanol and water, heating at 70°-85° for 2-24 h under bubbling air at 10-100 l/h, sepg., extg. the low phase with isopropanol, and cong. The molar ratio of C5-25 olefin-NaHSO₃-Bz₂O₂-Co(OAc)₂ is 1:1-5:0.001-0.2:0.001-0.2.
 ST alkanesulfonate refinery gas oligomerization sulfonation
 IT Sulfonates
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (alkanesulfonates; oligomerization and sulfonation of gases from refinery plants for manuf. of alkanesulfonates)
 IT Sulfonation catalysts
 (oligomerization and sulfonation of gases from refinery plants for manuf. of alkanesulfonates)
 IT Alkanes, reactions
 Alkenes, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oligomerization and sulfonation of gases from refinery plants for manuf. of alkanesulfonates)
 IT Polymerization
 (oligomerization; oligomerization and sulfonation of gases from refinery plants for manuf. of alkanesulfonates)
 IT Fuel gases
 (refinery gas; oligomerization and sulfonation of gases from refinery plants for manuf. of alkanesulfonates)
 IT 71-48-7, Cobalt acetate 94-36-0, Benzoyl peroxide, uses
 RL: CAT (Catalyst use); USES (Uses)
 (oligomerization and sulfonation of gases from refinery plants for manuf. of alkanesulfonates)
 IT 7631-90-5, Sodium acid sulfite
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oligomerization and sulfonation of gases from refinery plants for manuf. of alkanesulfonates)
 L2 ANSWER 7 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text
 AN 1999:816074 CAPLUS
 DN 132:24691
 TI Composition and preparation of diesel fuel substitutes and synthetic diesel fuels
 IN Hu, Shibin
 PA Peop. Rep. China
 SO Faming Zhuanli Shengqing Gongkai Shuomingshu, 5 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 IC ICM C10L001-22
 CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI CN 1155000	A	19970723	CN 1996-115029	19960117
PRAI CN 1996-115029		19960117		

 AB The diesel oil contains heavy hydrocarbons 10-95, light hydrocarbons 1.5-85, and additive 0.03-8 wt.%. The heavy hydrocarbons are selected from crude light diesel oil, heavy diesel oil, marine diesel oil, heavy oils, fine tars, carbolic oils, and wash oils; the light hydrocarbons are selected from benzene, toluene, ethylbenzene, naphtha, C4-28 hydrocarbons, methanol, ethanol, and fusel oil; the additive contains 20-45% oxidant,

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5-15% modifier, and salt. The oxidant is selected from KMnO_4 , H_2O_2 , $\text{Na}_2\text{Cr}_2\text{O}_7$, $\text{K}_2\text{Cr}_2\text{O}_7$, iso-Pr nitrate, Bu nitrate, amyl nitrate, isooctyl nitrate, and dinitrotoluene; the modifier is selected from OP-10, sulfonated castor oil, NaOH, and KOH; the salt is a nitrate, a sulfate, or a sulfonate.

ST diesel fuel combustion modifier; substitute diesel fuel

IT Hydrocarbons, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (C4-28, diesel fuels contg.; compn. and prepn. of diesel fuel substitutes and synthetic diesel fuels)

IT Diesel fuel additives
 Diesel fuel substitutes
 (combustion promoters; compn. and prepn. of diesel fuel substitutes and synthetic diesel fuels)

IT Absorption oils
 Fusel oil
 (diesel fuels contg.; compn. and prepn. of diesel fuel substitutes and synthetic diesel fuels)

IT Diesel fuel substitutes
 (synthetic; compn. and prepn. of diesel fuel substitutes and synthetic diesel fuels)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 71-43-2, Benzene, uses 100-41-4, Ethylbenzene, uses 108-88-3, Toluene, uses 928-45-0, Butyl nitrate 1002-16-0, Amyl nitrate 1310-58-3, Potassium hydroxide, uses 1310-73-2, Sodium hydroxide, uses 1712-64-7, Isopropyl nitrate 7631-99-4, Sodium nitrate, uses 7722-64-7, Potassium permanganate 7722-84-1, Hydrogen peroxide, uses 7778-50-9, Potassium dichromate 10588-01-9 25321-14-6, Dinitrotoluene 73513-43-6, Isooctyl nitrate 153301-99-6, OP-10 (Chinese surfactant)
 RL: TEM (Technical or engineered material use); USES (Uses)
 (diesel fuels contg.; compn. and prepn. of diesel fuel substitutes and synthetic diesel fuels)

L2 ANSWER 8 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1999:720220 CAPLUS

DN 131:300285

TI Low-temperature reclaiming of waste poly(vinyl chloride) and polyethylene by solvent-dissolving and precipitation

IN Liu, Changxin

PA Shandong College of Building Material Industry, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
 CODEN: CNXXEV

DT Patent

LA Chinese

IC ICM C08J011-08
 ICS C08L027-06

CC 38-2 (Plastics Fabrication and Uses)
 Section cross-reference(s): 60

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1137047	A	19961204	CN 1996-115778	19960515
	CN 1045782	B	19991020		
PRAI	CN 1996-115778		19960515		
AB	The patent relates to a reclaim technol. comprising cleaning waste poly(vinyl chloride) (PVC) and polyethylene (PE), drying in air, crushing, mixing with solvent, stirring, dissolving, cooling to ppt. PVC and PE, filtering, and washing to recover PVC and PE. The technol. uses catalysts such as sulfonate salts or peroxide compd. which are dissolved in solvent and mixed with polyoxyethylene mannitol fatty acid ester in the reactor at 25-90° for 1-2 h to dissolve PVC and PE. The solvent is				

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- one or more selected from decolorized petroleum, toluene, xylene, cyclohexane, cyclohexanone, THF, dioxane, Et acetate, Bu acetate. Thus, a recycled polyethylene (45-47 kg) was obtained by (1) washing waste PE 50 kg with tap water, drying, cutting into 1-cm² pieces, washing with hot sodium hydroxide soln. (5%) for 20 min, drying, (2) dissolving in a reactor contg. 1:1 decolorized gasoline:toluene 400 kg, sodium alkylsulfonate 0.5 kg, and polyoxyethylene mannitol fatty acid ester 1 kg at 60-70° for 1 h, (3) rapid cooling with ammonium nitrate soln. or ice to about 0° to ppt. PE particles, (4) filtering, washing, and drying.
- ST polyvinyl chloride waste plastic reclamation technol; polyethylene waste plastic reclaim technol
- IT Sulfonic acids, uses
RL: CAT (Catalyst use); USES (Uses)
(alkanesulfonic, sodium salts, catalyst; low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene using org. solvents and catalyst)
- IT Catalysts
(benzoyl peroxide and sodium alkylsulfonates; low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene using org. solvents and catalyst)
- IT Fatty acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(ethoxylated; low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene by dissolving in solvent contg.)
- IT Recycling of plastics and rubbers
Solvents
(low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene by solvent-dissolving and pptn.)
- IT Gasoline
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene by solvent-dissolving and pptn.)
- IT 94-36-0, Benzoyl peroxide, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst; low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene using org. solvents and catalyst)
- IT 9002-86-2P, Poly(vinyl chloride) 9002-88-4P, Polyethylene
RL: PUR (Purification or recovery); PREP (Preparation)
(low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene by solvent-dissolving and pptn.)
- IT 57639-81-3D, fatty acid esters
RL: NUU (Other use, unclassified); USES (Uses)
(low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene using org. solvents contg.)
- IT 108-88-3, Toluene, uses 108-94-1, Cyclohexanone, uses 109-99-9, uses 110-82-7, Cyclohexane, uses 123-86-4 123-91-1, 1,4-Dioxane, uses 141-78-6, Acetic acid ethyl ester, uses 1330-20-7, Xylene, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; low-temp. reclaiming of waste poly(vinyl chloride) and polyethylene by solvent-dissolving and pptn.)
- L2 ANSWER 9 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
- Full Text
- AN 1999:281367 CAPLUS
- DN 130:285840
- TI Manufacture of magnesite cement foaming material with high compression strength
- IN Yang, Junying; Wang, Yuqing; Liu, Tianxiang; Zhao, Wangchun; Yu, Kunlun
- PA Institute of Metal, Chinese Academy of Sciences, Peop. Rep. China
- SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
- CODEN: CNXXEV
- DT Patent

STN Columbus

LA Chinese
 IC ICM C04B028-10
 ICS C04B024-00; C04B018-06; B28B001-50
 CC 58-1 (Cement, Concrete, and Related Building Materials)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1115308	A	19960124	CN 1994-110394	19940719
PRAI	CN 1994-110394		19940719		
AB	<p>The material is prep'd. by mixing lightly-fired MgO 1, brine water 0.5-2.0, foaming agent 0.01-1.0, and surfactant 0.0001-0.01 parts, then foaming. The surfactant is anionic surfactant such as oleate, stearate, carbonate, sulfate ester salt, phosphate ester salt, silicone resin latex. The foaming agent is selected from org. foaming agents such as azo compds., hydrazine carbonate, nitroso compds., and inorg. foaming agents such as carbonates, chlorides. 0.00001-0.0005 Parts of compds. contg. Fe, Co, Ni, Mn may be used as catalyst. 0.1-1.5 Parts of pulverized fuel ash may be used as filler. The foaming agent is also selected from rosin soap, polymd. rosin, hydrogen peroxide, and alkyl sodium sulfonate. The prepn. method comprises mixing the above materials, foaming and molding, demolding after 7-24 h, and curing for 7-28 days.</p>				
ST	magnesite cement foaming material prepn				
IT	<p>Azo compounds Carbonates, processes Chlorides, processes Nitroso compounds Rosin RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses) (foaming agent contg.; in manuf. of magnesite cement foaming material with high compression strength)</p>				
IT	<p>Cement (construction material) Compressive strength (manuf. of magnesite cement foaming material with high compression strength)</p>				
IT	<p>Polysiloxanes, processes RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses) (surfactant contg.; in manuf. of magnesite cement foaming material with high compression strength)</p>				
IT	<p>6851-03-2, Hydrazine carbonate 7722-84-1, Hydrogen peroxide (H2O2), processes RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses) (foaming agent contg.; in manuf. of magnesite cement foaming material with high compression strength)</p>				
IT	<p>7705-08-0, Iron trichloride, processes 7722-64-7 7786-30-3, Magnesium chloride, processes RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses) (in manuf. of magnesite cement foaming material with high compression strength)</p>				
IT	<p>1309-48-4, Magnesite, processes RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (in manuf. of magnesite cement foaming material with high compression strength)</p>				
IT	<p>13717-00-5, Magnesite RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (manuf. of magnesite cement foaming material with high compression strength)</p>				

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strength)

IT 14265-44-2, Phosphate, processes
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (phosphate ester salt, surfactant contg.; in manuf. of magnesite cement foaming material with high compression strength)

IT 14808-79-8, Sulfate, processes
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (sulfate ester salt, surfactant contg.; in manuf. of magnesite cement foaming material with high compression strength)

IT 57-11-4, Octadecanoic acid, processes 112-80-1, 9-Octadecenoic acid (9Z)-, processes 557-05-1, Zinc stearate 3812-32-6, Carbonate, processes
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (surfactant contg.; in manuf. of magnesite cement foaming material with high compression strength)

L2 ANSWER 10 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text
 AN 1998:652785 CAPLUS
 DN 129:332964
 TI Nontoxic propellants for orbital maneuvering and reaction control systems for reusable spacecraft
 AU Hurlbert, Eric; Applewhite, John; Nguyen, Tien; Zhang, Baojiong; Wang, Yue
 CS NASA Johnson Space Center, Houston, TX, 77058, USA
 SO Journal of Propulsion and Power (1998), 14(5), 676-687
 CODEN: JPPOEL; ISSN: 0748-4658
 PB American Institute of Aeronautics and Astronautics
 DT Journal
 LA English
 CC 50-1 (Propellants and Explosives)
 Section cross-reference(s): 59

AB Toxic propellants have a high ground operations cost because of the potential hazards that require extensive safety precautions, particularly for reusable spacecraft. Nontoxic propellants for orbital maneuvering and reaction control systems have received periodic attention since the late 1960s as new reusable vehicles and upgrades to existing vehicles are proposed. This paper discusses the spacecraft requirements that drive propellant selections, the viable candidates for nontoxic propellants, and the system concepts and technologies required. Options for nontoxic propellants are also discussed, which are categorized as monopropellants, storable bipropellants, and cryogenic oxygen-based bipropellants. Monopropellants provide inherently simple systems and are most suited to low total impulse systems. Hydrogen peroxide and kerosene is a promising storable bipropellant in terms of its d., specific impulse, and low toxicity for long-duration spacecraft on-orbit propulsion systems. This combination can be made hypergolic, which renders it a very effective replacement for currently used storable propellants. The hypergolic characteristics of kerosene with additives and high-concn. hydrogen peroxide are presented in detail. Higher-performance liq. oxygen and alc. or hydrocarbon fuels are advantageous for reusable propulsion systems that emphasize fluid commonality with other spacecraft systems and for human exploration missions where in-situ propellant prodn. is foreseen. The prospects for further research work on all of these propellants are also discussed.

ST nontoxic propellant space vehicle fuel safety; kerosine hydrogen peroxide nontoxic propellant; liq oxygen alc hydrocarbon nontoxic propellant

IT Hydrocarbons, uses
 Kerosene

STN Columbus

RL: NUU (Other use, unclassified); USES (Uses)
 (in nontoxic propellants for orbital maneuvering and reaction control systems for reusable spacecraft)

IT Propellants (fuels)
 Space vehicles
 (nontoxic propellants for orbital maneuvering and reaction control systems for reusable spacecraft)

IT 28258-91-5 39817-07-7, Cobalt dodecylbenzene sulfonate
 42884-29-7, Copper dodecylbenzene sulfonate 52641-56-2
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
 (in nontoxic propellants for orbital maneuvering and reaction control systems for reusable spacecraft)

IT 302-01-2, Hydrazine, uses 7722-84-1, Hydrogen peroxide, uses
 12751-15-4, HAN
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
 (in nontoxic propellants for orbital maneuvering and reaction control systems for reusable spacecraft)

IT 1333-74-0, Hydrogen, uses 7782-44-7, Oxygen, uses
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
 (liq.; in nontoxic propellants for orbital maneuvering and reaction control systems for reusable spacecraft)

IT 98-29-3, p-tert-Butyl catechol 98-54-4 110-18-9 121-44-8, Triethyl amine, uses 30260-66-3, Dimethyl hydrazine
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (promoter; in nontoxic propellants for orbital maneuvering and reaction control systems for reusable spacecraft)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

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STN Columbus

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(26) Wilkinson, C; Boeing Aerospace and Electronics 1990

L2 ANSWER 11 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1998:178150 CAPLUS

DN 128:232629

TI Oil composition for improving fuel economy in internal combustion engines

IN Roby, Stephen H.; Supp, James A.; Manka, John S.; Abraham, William D.

PA Lubrizol Corp., USA

SO U.S., 26 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C10M141-10

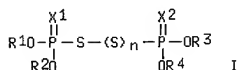
NCL 508287000

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5726132	A	19980310	US 1997-808698	19970228
	CA 2230178	AA	19980828	CA 1998-2230178	19980223
	EP 864634	A1	19980916	EP 1998-301381	19980225
	EP 864634	B1	20010808		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	ES 2161504	T3	20011201	ES 1998-301381	19980225
	JP 10273686	A2	19981013	JP 1998-48051	19980227
PRAI	US 1997-808698	A	19970228		
OS	MARPAT 128:232629				
GI					



AB This invention relates to compns. for improving fuel efficiency in internal combustion engines. The compn. comprises a lubricant having an oil of lubricating viscosity and (A) a compd. I wherein in Formula (A-I), R1, R2, R3 and R4 are independently hydrocarbaryl groups, X1 and X2 are independently O or S, and n is zero to 3; and (B) an acylated nitrogen-contg. compd. having a substituent of at least 10 aliph. carbon atoms. In one embodiment, the inventive compn. further comprises (C) a 2nd phosphorus compd. other than (A), said 2nd phosphorus compd. being a phosphorus acid, phosphorus acid ester, phosphorus acid salt, or deriv. thereof. In one embodiment, the inventive compn. further comprises (D) an alkali or alk. earth metal salt of an org. sulfur acid, carboxylic acid or phenol. In one embodiment, the inventive compn. further comprises (E) a thiocarbamate. These compns. are useful in providing lubricating compns. and functional fluids with enhanced fuel efficiency properties.

ST Oil improving fuel economy combustion engine

IT Sulfonates

Sulfonates

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP

STN Columbus

- (Preparation); USES (Uses)
 (alkali metal; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Phenols, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (alkyl; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Sulfonates
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (alkylarene; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Lubricating oils
 (base oils; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Lubricating oils
 (crankcase; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Disulfides
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (dithiocarbamate; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Phosphorus acids
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (esters; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Sulfonic acids, uses
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (magnesium salts, overbased; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Organic compounds, uses
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (nitrogen-contg.; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Alkali metal salts
 Alkaline earth salts
 Phosphorus acids
 Polyamines
 Sulfides, uses
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

STN Columbus

- (oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Polyamines
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (reaction products; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Alkali metal salts
 Alkali metal salts
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (sulfonates; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT Organic compounds, uses
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (sulfur-contg.; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT 10043-52-4, Calcium chloride (CaCl₂), reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (Peladow; oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT 50-00-0DP, Formaldehyde, reaction products with calcium sulfonates, lime, heptylphenol, Peladow and alc. mixts., uses 77-86-1DP, Trishydroxymethyl aminomethane, reaction products with HPA-X and polyisobutenyl succinic anhydride 98-11-3DP, Benzenesulfonic acid, branched chain monoalkyl derivs., reaction products with polyisobutenyl succinic anhydride and magnesium oxide, uses 100-37-8DP, reaction products with polyisobutenyl succinic anhydride 111-40-0DP, Diethylenetriamine, reaction products with polyisobutenyl succinic anhydride and polyethyleneamine bottoms 1309-48-4DP, Magnesium oxide, reaction products with branched chain monoalkyl benzenesulfonic acid and polyisobutenyl succinic anhydride 1634-02-2P 2209-92-9DP, reaction products with polyisobutenyl succinic anhydride and polyethyleneamine bottoms and diethylenetriamine 3031-21-8P 9002-98-6DP, reaction products with polyisobutenyl succinic anhydride and diethylenetriamine 9003-07-0DP, Polypropylene, benzenesulfonic acid derivs. calcium salts 26997-02-4DP, Heptylphenol, reaction products with calcium sulfonates, lime, formaldehyde, Peladow and alc. mixts. 29564-41-8DP, reaction products with polyethyleneamine bottoms and diethylenetriamine 32750-89-3P 34832-01-4P 93981-30-7P 125467-29-0P 130115-70-7P 153239-00-0P 204580-58-5P 204580-64-3P 204708-05-4P 204708-06-5P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (oil compn. for improving fuel economy in internal combustion

STN Columbus

- engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT 10043-35-3, Boric acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT 5810-88-8P 6028-47-3P, O,O'-Bis(4-methyl-2-pentyl) dithiophosphate
14548-64-2P 19475-46-8P 33308-05-3P 175888-47-8P 203722-97-8P
204580-59-6P 204580-62-1P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- IT 67-63-0, Isopropyl alcohol, reactions 75-15-0, Carbon disulfide, reactions 75-56-9, reactions 96-33-3 101-02-0, Triphenyl phosphite 108-11-2, 4-Methyl-2-pentanol 111-88-6, 1-Octanethiol 111-92-2, Di-n-butylamine 112-55-0, Dodecyl mercaptan 112-90-3, Oleylamine 149-57-5, 2-Ethylhexanoic acid 1305-62-0, Calcium hydroxide, reactions 1309-37-1, Ferric oxide, reactions 1310-58-3, Potassium hydroxide, reactions 1310-73-2, Sodium hydroxide, reactions 1314-13-2, Zinc oxide (ZnO), reactions 1314-80-3, Phosphorus sulfide (P2S5) 2253-52-3 7664-41-7, Ammonia, reactions 7722-84-1, Hydrogen peroxide (H2O2), reactions 10545-99-0, Sulfur dichloride 25134-38-7, Diisopropyl dithiophosphoric acid 26952-21-6, Isooctanol 26999-29-1 27157-94-4 54972-97-3 204580-61-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(oil compn. for improving fuel economy in internal combustion engines based on phosphorus contg. sulfides, acylated nitrogen-contg. compds., phosphorus acids, alkali or alk. earth salts and sulfur contg. compds.)
- RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
(1) Colclough; US 3687848 1972 CAPLUS
(2) Hata; US 4609480 1986 CAPLUS
(3) Malee; US 3833496 1974 CAPLUS
(4) Malee; US 3890363 1975 CAPLUS
(5) Manka; US 5674820 1997 CAPLUS
(6) Norman; US 3219666 1965 CAPLUS

L2 ANSWER 12 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1997:67085 CAPLUS
DN 126:79436
TI Decontamination treatment of resin acids tar from petroleum processing.
IN Kristof, Janos; Kotai, Laszlo
PA Kristof, Janos, Hung.; Kotai, Laszlo
SO Hung. Teljes, 6 pp.
CODEN: HUXXBV
DT Patent
LA Hungarian
IC ICM C02F003-00
CC 60-4 (Waste Treatment and Disposal)
Section cross-reference(s): 51

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI HU 73587	A2	19960828	HU 1994-1587	19940526

STN Columbus

PRAI HU 1994-1587 19940526

AB The liq. and solid phases of waste resin acids from petroleum processing are sepd. The liq. phase is subjected to pyrolysis at 500-600° in an air-free reactor. The resulting coke is mixed with sawdust or crushed straw and is briquetted. The solidified part of the sludge is treated with calcium sulfonate and calcium hydroxide. The treated solid residue is subjected to firing at 500-550° using as fuel the briquetted coke with sawdust/straw resulting during pyrolysis of the liq. sludge. The flue gases are bubbled through a hydrogen peroxide soln. converting the SO2 component in H2SO4. The hydrocarbon component of the flue gases are burned after a water scrubber. The resulting H2SO4 is converted in com. usable sulfate.

ST petroleum processing waste resin acid decontamination

IT Sulfonic acids, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (calcium salts; decontamination treatment of resin acids from petroleum processing by chem. treatment, pyrolysis, firing and conversion of sulfur-contg. flue gases in sulfates)

IT Straw
 (crushed; decontamination treatment of resin acids from petroleum processing by chem. treatment, pyrolysis, firing and conversion of sulfur-contg. flue gases in sulfates)

IT Sawdust
 Thermal decomposition
 (decontamination treatment of resin acids from petroleum processing by chem. treatment, pyrolysis, firing and conversion of sulfur-contg. flue gases in sulfates)

IT Resin acids
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (decontamination treatment of resin acids from petroleum processing by chem. treatment, pyrolysis, firing and conversion of sulfur-contg. flue gases in sulfates)

IT Coke
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (decontamination treatment of resin acids from petroleum processing by chem. treatment, pyrolysis, firing and conversion of sulfur-contg. flue gases in sulfates)

IT 1305-62-0, Calcium hydroxide, uses 7722-84-1, Hydrogen peroxide, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (decontamination treatment of resin acids from petroleum processing by chem. treatment, pyrolysis, firing and conversion of sulfur-contg. flue gases in sulfates)

IT 7664-93-9P, Sulfuric acid, preparation
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (decontamination treatment of resin acids from petroleum processing by chem. treatment, pyrolysis, firing and conversion of sulfur-contg. flue gases in sulfates)

L2 ANSWER 13 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1995:549487 CAPLUS

DN 122:269871

TI Preparation of fuel oil as substitutes of gasoline or diesel for automobiles

IN Yu, Zhanchen; Shan, Guilin

PA Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

IC ICM C10L001-00

STN Columbus

CC 51-7 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1083514	A	19940309	CN 1993-116602	19930827
PRAI	CN 1993-116602		19930827		
AB	The fuel oil is prepd. by mixing methanol 50-75, heavy hydrocarbon 20-35, peroxide 1-5, sulfonated oil 1-5, sulfonate 0.5-3 wt.% and balance water; then filtrating the mixt.				
ST	fuel oil gasoline diesel substitute automobile; methanol hydrocarbon fuel substitute automobile				
IT	Hydrocarbons, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (heavy; in prepn. of fuel oil as substitutes of gasoline or diesel for automobile)				
IT	Peroxides, uses				
	Sulfonates				
	RL: TEM (Technical or engineered material use); USES (Uses) (in prepn. of fuel oil as substitutes of gasoline or diesel for automobile)				
IT	Fuels, diesel				
	(prepn. of fuel oil as substitutes of gasoline or diesel for automobile)				
IT	Gasoline				
	RL: IMF (Industrial manufacture); PREP (Preparation) (prepn. of fuel oil as substitutes of gasoline or diesel for automobile)				
IT	67-56-1, Methanol, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (in prepn. of fuel oil as substitutes of gasoline or diesel for automobile)				

L2 ANSWER 14 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1992:135528 CAPLUS

DN 116:135528

TI Performance-oriented packaging standards; changes to classification, hazard communication, packaging and handling requirements based on UN standards and agency initiative

CS United States Dept. of Transportation, Washington, DC, 20590-0001, USA

SO Federal Register (1990), 55(246), 52402-729, 21 Dec 1990

CODEN: FEREC; ISSN: 0097-6326

DT Journal

LA English

CC 59-6 (Air Pollution and Industrial Hygiene)

AB The hazardous materials regulations under the Federal Hazardous Materials Transportation Act are revised based on the United Nations recommendations on the transport of dangerous goods. The regulations cover the classification of materials, packaging requirements, and package marking, labeling, and shipping documentation, as well as transportation modes and handling, and incident reporting. Performance-oriented stds. are adopted for packaging for bulk and nonbulk transportation, and SI units of measurement generally replace US customary units. Hazardous material descriptions and proper shipping names are tabulated together with hazard class, identification nos., packing group, label required, special provisions, packaging authorizations, quantity limitations, and vessel stowage requirements.

ST hazardous chem transport packaging

IT Infection

(agents, packaging and transport of, stds. for)

IT Resin acids and Rosin acids

RL: USES (Uses)

STN Columbus

(aluminum salts, packaging and transport of, stds. for)

IT Alkaline earth metals
RL: USES (Uses)
(amalgams, packaging and transport of, stds. for)

IT Alkali metals, miscellaneous
RL: MSC (Miscellaneous)
(amalgams, packaging and transport of, stds. for)

IT Dyes
(coal tar, packaging and transport of, stds. for)

IT Packaging materials
(for hazardous material transport, stds. for)

IT Standards, legal and permissive
(for hazardous material transportation)

IT Bromates
Chlorites
RL: USES (Uses)
(inorg., packaging and transport of, stds. for)

IT Appliances
(life-saving, packaging and transport of, stds. for)

IT Borates
RL: USES (Uses)
(mixts. contg. chlorates, packaging and transport of, stds. for)

IT Chlorates
RL: USES (Uses)
(mixts. contg., packaging and transport of, stds. for)

IT Diazonium compounds
RL: USES (Uses)
(nitrates, packaging and transport of, stds. for)

IT Paper
(oiled, packaging and transport of, stds. for)

IT Adhesives
Alcoholic beverages
Ammunition
Antifreeze substances
Bactericides, Disinfectants, and Antiseptics
Batteries, primary
Blasting gelatin
Bombs (explosives)
Carbon paper
Cartridges
Castor bean
Coating materials
Corrosive substances
Cotton
Creosote
Detonators
Dyes
Dynamite
Electric fuses
Exothermic materials
Explosives
Flavoring materials
Flue dust
Fuel cells
Fuel oil
Fuels, diesel
Fuels, jet aircraft
Fusel oil
Fuses, explosives
Gas oils
Hay
Herbicides

STN Columbus

Igniters and Lighters
Insecticides
Lacrimators
Magnetic substances
Matches
Oxidizing agents
Perfumes
Pesticides
Petroleum products
Pharmaceuticals
Photoelectric devices
Poisons
Primers, explosive
Projectiles
Pyrophoric substances
Pyrotechnic compositions
Radioactive substances
Refrigerating apparatus
Rockets
Shale oils
Solvent naphtha
Sprays
Straw
Textiles
Thermoelectric devices
Torpedoes (weapons)
Turpentine
Wood preservatives
 (packaging and transport of, stds. for)
IT Alcohols, miscellaneous
Aldehydes, miscellaneous
Alkali metal alloys, base
Alkali metals, miscellaneous
Alkaline earth alloys, base
Alkaline earth metals
Alkaloids, miscellaneous
Amines, miscellaneous
Arsenates
Arsenites
Asbestos
Asphalt
Bases, miscellaneous
Charcoal
Coal
Coke
Cyanates
Cyanides, miscellaneous
Fibers
Fluorides, miscellaneous
 Gasoline
Helium-group gases, miscellaneous
Hydrides
Hypochlorites
Kerosine
Ketones, uses
Ligroine
Metals, miscellaneous
Naphtha
Natural gas
Natural gas condensates
Nitrates, miscellaneous
Nitrites

STN Columbus

Perchlorates
 Permanganates
 Peroxides, uses
 Petroleum
 Petroleum gases, liquefied
 Polyamines
 Polyesters, miscellaneous
 Rosin oil
 Selenates
 Selenites
 Sulfonic acids, miscellaneous
 Tar
 Terpenes and Terpenoids, miscellaneous
 Thiols, uses
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (packaging and transport of, stds. for)
 IT Refrigeration
 (agents, packaging and transport of, stds. for)
 IT Sulfonic acids, miscellaneous
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (alkane, packaging and transport of, stds. for)
 IT Phenols, miscellaneous
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (alkyl, packaging and transport of, stds. for)
 IT Alkali metals, compounds
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (amides, packaging and transport of, stds. for)
 IT Fertilizers
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (ammonium nitrate, packaging and transport of, stds. for)
 IT Gasoline additives
 (antiknock, packaging and transport of, stds. for)
 IT Sulfonic acids, miscellaneous
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (arene, packaging and transport of, stds. for)
 IT Nitro compounds
 RL: USES (Uses)
 (aryl, potassium salts, packaging and transport of, stds. for)
 IT Nitro compounds
 RL: USES (Uses)
 (aryl, sodium salts, packaging and transport of, stds. for)
 IT Fuels
 (aviation, packaging and transport of, stds. for)
 IT Propellants
 (black powder, packaging and transport of, stds. for)
 IT Hydraulic fluids
 (brake, packaging and transport of, stds. for)
 IT Flours and Meals
 (cakes, packaging and transport of, stds. for)
 IT Resin acids and Rosin acids
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (calcium salts, packaging and transport of, stds. for)
 IT Essential oils
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)

STN Columbus

(camphor, packaging and transport of, stds. for)

IT Silanes
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (chloro, packaging and transport of, stds. for)

IT Solvents
 (cleaning, packaging and transport of, stds. for)

IT Tar
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (coal, packaging and transport of, stds. for)

IT Fuel gases
 (coal gas, packaging and transport of, stds. for)

IT Naphthenic acids, compounds
 Resin acids and Rosin acids
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (cobalt salts, packaging and transport of, stds. for)

IT Coconut
 (copra, packaging and transport of, stds. for)

IT Petroleum products
 (distillates, packaging and transport of, stds. for)

IT Rockets
 (engines, packaging and transport of, stds. for)

IT Fire
 (extinguishers, packaging and transport of, stds. for)

IT Pyrotechnic compositions
 (fireworks, packaging and transport of, stds. for)

IT Pyrotechnic compositions
 (flare, packaging and transport of, stds. for)

IT Silicates, miscellaneous
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (fluoro-, packaging and transport of, stds. for)

IT Gasoline
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (gasohol, packaging and transport of, stds. for)

IT Ammunition
 (grenades, packaging and transport of, stds. for)

IT Asbestos
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (grunerite, packaging and transport of, stds. for)

IT Sulfites
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (hydrogen, packaging and transport of, stds. for)

IT Organic compounds, miscellaneous
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (iodyl, packaging and transport of, stds. for)

IT Group VIII elements
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
 (iron-group, packaging and transport of, stds. for)

IT Air
 Corrosive substances
 (liq., packaging and transport of, stds. for)

IT Gases
 (liquefied, packaging and transport of, stds. for)

IT Resin acids and Rosin acids

STN Columbus

- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(manganese salts, packaging and transport of, stds. for)
- IT Castor bean
- Fish
(meal, packaging and transport of, stds. for)
- IT Organometallic compounds
- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(metal alkyls, packaging and transport of, stds. for)
- IT Explosives
(mines, packaging and transport of, stds. for)
- IT Carbohydrates and Sugars, miscellaneous
- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(nitro, packaging and transport of, stds. for)
- IT Aromatic compounds
- RL: USES (Uses)
(nitro, potassium salts, packaging and transport of, stds. for)
- IT Aromatic compounds
- RL: USES (Uses)
(nitro, sodium salts, packaging and transport of, stds. for)
- IT Fertilizers
- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(nitrogen, packaging and transport of, stds. for)
- IT Peroxides, miscellaneous
- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(org., packaging and transport of, stds. for)
- IT Coating materials
(paints, packaging and transport of, stds. for)
- IT Essential oils
- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(pine, packaging and transport of, stds. for)
- IT Inks
(printing, packaging and transport of, stds. for)
- IT Matches
(safety, packaging and transport of, stds. for)
- IT Alkaloids, compounds
- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(salts, packaging and transport of, stds. for)
- IT Containers
(shipping, for hazardous material transport, stds. for)
- IT Pyrotechnic compositions
(signal rockets, packaging and transport of, stds. for)
- IT Pyrotechnic compositions
(smoke-generating, packaging and transport of, stds. for)
- IT Propellants
(smokeless, packaging and transport of, stds. for)
- IT Pharmaceutical dosage forms
(tinctures, packaging and transport of, stds. for)
- IT Ammunition
- Pyrotechnic compositions
(tracers, packaging and transport of, stds. for)
- IT Resin acids and Rosin acids
- RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(zinc salts, packaging and transport of, stds. for)
- IT 64-17-5

STN Columbus

RL: OCCU (Occurrence)
 (alcoholic beverages, packaging and transport of, stds. for)
 IT 50-00-0, Formaldehyde, miscellaneous 54-11-5, Nicotine 54-11-5D,
 Nicotine, compds. 55-63-0, Nitroglycerin 55-68-5, Phenylmercuric
 nitrate 56-18-8, 3,3'-Iminodipropylamine 56-23-5, miscellaneous
 56-38-2, Parathion 57-06-7, Allyl isothiocyanate 57-14-7 57-24-9D,
 Strychnine, salts 60-00-4, EDTA, miscellaneous 60-24-2 60-29-7,
 Diethyl ether, miscellaneous 60-34-4, Methylhydrazine 60-57-1,
 Dieldrin 62-38-4, Phenylmercuric acetate 62-53-3, Aniline,
 miscellaneous 62-74-8, Sodium fluoroacetate 64-17-5, Ethanol,
 miscellaneous 64-18-6, Formic acid, miscellaneous 64-18-6D, Formic
 acid, chloro derivs. 64-19-7, Acetic acid, miscellaneous 64-67-5,
 Diethyl sulfate 66-25-1, Hexaldehyde 67-56-1, Methanol, miscellaneous
 67-63-0, Isopropanol, miscellaneous 67-64-1, Acetone, miscellaneous
 67-66-3, Chloroform, miscellaneous 68-11-1, Thioglycolic acid,
 miscellaneous 68-12-2, N,N-Dimethylformamide, miscellaneous 70-11-1,
 Phenacyl bromide 70-30-4, Hexachlorophene 71-23-8, n-Propanol,
 miscellaneous 71-41-0, 1-Pentanol, miscellaneous 71-43-2, Benzene,
 miscellaneous 71-55-6, 1,1,1-Trichloroethane 74-82-8, Methane,
 miscellaneous 74-83-9, miscellaneous 74-84-0, Ethane, miscellaneous
 74-85-1, Ethylene, miscellaneous 74-86-2, Acetylene, miscellaneous
 74-87-3, Methyl chloride, miscellaneous 74-88-4, Methyl iodide,
 miscellaneous 74-89-5, Methylamine, miscellaneous 74-90-8, Hydrogen
 cyanide, miscellaneous 74-93-1, Methyl mercaptan, miscellaneous
 74-95-3, Dibromomethane 74-96-4, Ethyl bromide 74-97-5,
 Bromochloromethane 74-98-6, Propane, miscellaneous 75-00-3, Ethyl
 chloride 75-01-4, miscellaneous 75-02-5, Vinyl fluoride 75-04-7,
 Ethylamine, miscellaneous 75-05-8, Methyl cyanide, miscellaneous
 75-07-0, Acetaldehyde, miscellaneous 75-08-1, Ethyl mercaptan 75-09-2,
 Dichloromethane, miscellaneous 75-15-0, Carbon disulfide, miscellaneous
 75-16-1, Methyl magnesium bromide 75-18-3, Dimethyl sulfide 75-19-4,
 Cyclopropane 75-20-7, Calcium carbide 75-21-8 75-21-8, Ethylene
 oxide, miscellaneous 75-25-2, Bromoform 75-26-3, 2-Bromopropane
 75-28-5, Isobutane 75-28-5D, Isobutane, mixts. 75-29-6,
 2-Chloropropane 75-31-0, Isopropylamine, miscellaneous 75-33-2,
 Isopropyl mercaptan 75-34-3, 1,1-Dichloroethane 75-35-4, miscellaneous
 75-36-5, Acetyl chloride 75-38-7, 1,1-Difluoroethylene 75-39-8,
 Acetaldehyde ammonia 75-43-4, Dichloromono-fluoromethane 75-44-5,
 Phosgene 75-45-6, Chlorodifluoromethane 75-46-7, Trifluoromethane
 75-50-3, Trimethylamine, miscellaneous 75-52-5, Nitromethane,
 miscellaneous 75-54-7, Methylchlorosilane 75-55-8, Propyleneimine
 75-56-9, Propylene oxide, miscellaneous 75-59-2, Tetramethylammonium
 hydroxide 75-60-5, Cacodylic acid 75-61-6, Dibromodifluoromethane
 75-63-8 75-71-8, Dichlorodifluoromethane 75-72-9,
 Chlorotrifluoromethane 75-73-0, Tetrafluoromethane 75-76-3,
 Tetramethylsilane 75-77-4, Trimethylchlorosilane, miscellaneous
 75-78-5, Dimethyldichlorosilane 75-79-6, Methyltrichlorosilane 75-83-2
 75-86-5, Acetone cyanohydrin 75-87-6, Chloral 75-91-2, text-Butyl
 hydroperoxide 75-94-5, Vinyltrichlorosilane 76-01-7, Pentachloroethane
 76-02-8, Trichloroacetyl chloride 76-03-9, properties 76-05-1,
 Trifluoroacetic acid, miscellaneous 76-06-2, Chloropicrin 76-06-2D,
 Chloropicrin, mixts. 76-15-3 76-16-4, Hexafluoroethane 76-19-7,
 Octafluoropropane 76-22-2, Camphor 77-47-4, Hexachlorocyclopentadiene
 77-73-6 77-78-1, Dimethyl sulfate 78-00-2, Tetraethyl lead 78-10-4,
 Tetraethyl silicate 78-62-6, Dimethyldiethoxysilane 78-67-1,
 Azodiisobutyronitrile 78-76-2, 2-Bromobutane 78-78-4, Isopentane
 78-79-5, Isoprene, miscellaneous 78-81-9, Isobutylamine 78-82-0,
 Isobutyronitrile 78-83-1, Isobutanol, miscellaneous 78-84-2,
 Isobutyraldehyde 78-85-3, Methacrylaldehyde 78-87-5, Propylene
 dichloride 78-89-7, Propylene chlorohydrin 78-90-0,
 1,2-Propylenediamine 78-93-3, 2-Butanone, miscellaneous 78-94-4,
 Methyl vinyl ketone, miscellaneous 78-95-5, Monochloroacetone 79-01-6,

STN Columbus

Trichloroethylene, miscellaneous 79-03-8, Propionyl chloride 79-04-9,
 Chloroacetyl chloride 79-06-1, Acrylamide, miscellaneous 79-08-3,
 Bromoacetic acid 79-09-4, Propionic acid, miscellaneous 79-10-7,
 2-Propenoic acid, miscellaneous 79-11-8, Chloroacetic acid,
 miscellaneous 79-20-9, Methyl acetate 79-21-0, Peroxyacetic acid
 79-22-1 79-24-3, Nitroethane 79-29-8, 2,3-Dimethylbutane 79-30-1,
 Isobutyryl chloride 79-31-2, Isobutyric acid 79-36-7, Dichloroacetyl
 chloride 79-38-9 79-41-4, miscellaneous 79-42-5 79-43-6,
 Dichloroacetic acid, miscellaneous 79-44-7, Dimethylcarbamoyl chloride
 80-10-4, Diphenyldichlorosilane 80-15-9, Cumene hydroperoxide 80-17-1,
 Benzene sulfohydrazide 80-47-7, p-Menthane hydroperoxide 80-51-3,
 Diphenyloxide-4,4'-disulfohydrazide 80-56-8, α -Pinene 80-62-6
 81-15-2 82-71-3 85-44-9, 1,3-Isobenzofurandione 86-50-0, Azinphos
 methyl 87-68-3, Hexachlorobutadiene 87-90-1 88-17-5,
 2-Trifluoromethylaniline 88-72-2, o-Nitrotoluene 88-73-3,
 o-Chloronitrobenzene 88-74-4, o-Nitroaniline 88-75-5, o-Nitrophenol
 88-89-1 89-58-7, p-Nitroxyline 91-17-8, Decahydronaphthalene
 91-20-3, Naphthalene, miscellaneous 91-20-3D, Naphthalene, dioxonide
 derivs. 91-22-5, Quinoline, miscellaneous 91-59-8,
 β -Naphthylamine 91-66-7, N,N-Diethylaniline 92-52-4D, Biphenyl,
 chloro derivs. 92-52-4D, Biphenyl, halo derivs. 92-59-1,
 N-Ethyl-N-benzylaniline 92-87-5, Benzidine 93-58-3, Methyl benzoate
 94-17-7, p-Chlorobenzoyl peroxide 94-36-0, Benzoyl
 peroxide, miscellaneous 95-48-7, miscellaneous 95-50-1,
 o-Dichlorobenzene 95-54-5, o-Phenylenediamine, miscellaneous 95-55-6,
 o-Aminophenol 95-80-7 95-85-2, 2-Amino-4-chlorophenol 96-12-8,
 Dibromochloropropane 96-22-0, Diethyl ketone 96-23-1 96-24-2,
 Glycerol α -monochlorohydrin 96-32-2, Methyl bromoacetate 96-33-3
 96-34-4, Methyl chloroacetate 96-37-7, Methyl cyclopentane 96-41-3,
 Cyclopentanol 97-62-1, Ethyl isobutyrate 97-63-2 97-64-3, Ethyl
 lactate 97-72-3, Isobutyric anhydride 97-85-8, Isobutyl isobutyrate
 97-86-9 97-88-1 97-95-0 97-96-1, 2-Ethylbutyraldehyde 98-00-0,
 Furfuryl alcohol 98-01-1, Furfural, miscellaneous 98-07-7,
 Benzotrichloride 98-08-8, Benzotrifluoride 98-09-9, Benzene sulfonyl
 chloride 98-12-4, Cyclohexyltrichlorosilane 98-13-5,
 Phenyltrichlorosilane 98-16-8, 3-Trifluoromethylaniline 98-82-8,
 Isopropylbenzene 98-83-9, miscellaneous 98-85-1, α -Methylbenzyl
 alcohol 98-87-3, Benzylidene chloride 98-88-4, Benzoyl chloride
 98-94-2 98-95-3, Nitrobenzene, miscellaneous 99-08-1, m-Nitrotoluene
 99-09-2, m-Nitroaniline 99-35-4, Trinitrobenzene 99-99-0,
 p-Nitrotoluene 100-00-5 100-01-6, p-Nitroaniline, miscellaneous
 100-02-7, p-Nitrophenol, miscellaneous 100-17-4 100-34-5, Benzene
 diazonium chloride 100-36-7, N,N-Diethylethylenediamine
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (packaging and transport of, stds. for)
 IT 100-37-8, Diethylaminoethanol 100-39-0, Benzyl bromide 100-41-4,
 Ethylbenzene, miscellaneous 100-42-5, miscellaneous 100-44-7, Benzyl
 chloride, miscellaneous 100-47-0, Benzonitrile, miscellaneous
 100-50-5, 1,2,3,6-Tetrahydrobenzaldehyde 100-57-2, Phenylmercuric
 hydroxide 100-61-8, N-Methylaniline, miscellaneous 100-63-0,
 Phenylhydrazine 100-66-3, Anisole, miscellaneous 100-73-2, Acrolein
 dimer 101-25-7, N,N'-Dinitrosopentamethylenetetramine 101-68-8
 101-77-9, 4,4'-Diaminodiphenyl methane 101-83-7, Dicyclohexylamine
 102-69-2, Tripropylamine 102-70-5, Triallylamine 102-81-8,
 Dibutylaminoethanol 102-82-9, Tributylamine 103-65-1, n-Propylbenzene
 103-69-5, N-Ethylaniline 103-71-9, Phenylisocyanate, miscellaneous
 103-80-0, Phenylacetyl chloride 103-83-3, Benzyl dimethylamine
 104-15-4, Toluene sulfonic acid, miscellaneous 104-51-8, Butylbenzene
 104-75-6, 2-Ethylhexylamine 104-78-9 104-90-5, 2-Methyl-5-
 ethylpyridine 105-36-2 105-37-3, Ethyl propionate 105-39-5, Ethyl
 chloroacetate 105-48-6, Isopropyl chloroacetate 105-54-4, Ethyl

STN Columbus

butyrate 105-56-6, Ethyl cyanoacetate 105-57-7, Acetal 105-58-8,
 Diethyl carbonate 105-64-6, Isopropyl peroxydicarbonate 105-74-8,
 Lauroyl peroxide 106-31-0, Butyric anhydride 106-44-5,
 p-Cresol, miscellaneous 106-46-7, p-Dichlorobenzene 106-50-3,
 p-Phenylenediamine, miscellaneous 106-51-4, 2,5-Cyclohexadiene-1,4-
 dione, miscellaneous 106-63-8, Isobutyl acrylate 106-68-3, Ethyl amyl
 ketone 106-88-7, 1,2-Butylene oxide 106-89-8, miscellaneous 106-92-3,
 Allyl glycidyl ether 106-93-4, Ethylene dibromide 106-95-6,
 Allyl bromide, miscellaneous 106-96-7, 3-Bromopropyne 106-97-8,
 Butane, miscellaneous 106-97-8D, Butane, mixts. 106-99-0,
 1,3-Butadiene, miscellaneous 107-00-6, Ethylacetylene 107-02-8,
 2-Propenal, miscellaneous 107-05-1, Allyl chloride 107-06-2, Ethylene
 dichloride, miscellaneous 107-07-3, Ethylene chlorohydrin, miscellaneous
 107-10-8, Propylamine, miscellaneous 107-11-9, Allylamine 107-12-0,
 Propionitrile 107-13-1, Acrylonitrile, miscellaneous 107-14-2,
 Chloroacetonitrile 107-15-3, Ethylenediamine, miscellaneous 107-18-6,
 Allyl alcohol, miscellaneous 107-19-7, Propargyl alcohol 107-20-0,
 Chloroacetaldehyde 107-25-5, Vinylmethyl ether 107-29-9, Acetaldehyde
 oxime 107-30-2, Methylchloromethyl ether 107-31-3, Methyl formate
 107-37-9, Allyltrichlorosilane 107-49-3, Tetraethyl pyrophosphate
 107-70-0 107-71-1, tert-Butyl peroxyacetate 107-72-2,
 Amyltrichlorosilane 107-81-3, 2-Bromopentane 107-82-4,
 1-Bromo-3-methylbutane 107-87-9, Methyl propyl ketone 107-89-1, Aldol
 107-92-6, Butyric acid, miscellaneous 108-01-0, Dimethylethanolamine
 108-05-4, Acetic acid ethenyl ester, miscellaneous 108-09-8,
 1,3-Dimethylbutylamine 108-10-1, Methyl isobutyl ketone 108-11-2,
 Methyl isobutyl carbinol 108-18-9, Diisopropylamine 108-20-3,
 Diisopropyl ether 108-21-4, Isopropyl acetate 108-22-5, Isopropenyl
 acetate 108-23-6, Isopropyl chloroformate 108-24-7, Acetic anhydride
 108-31-6, 2,5-Furandione, miscellaneous 108-39-4, miscellaneous
 108-45-2, m-Phenylenediamine, miscellaneous 108-46-3, Resorcinol,
 miscellaneous 108-67-8, miscellaneous 108-77-0 108-83-8, Diisobutyl
 ketone 108-84-9 108-86-1, Benzene, bromo-, miscellaneous 108-87-2,
 Methyl cyclohexane 108-88-3, Toluene, miscellaneous 108-90-7,
 Chlorobenzene, miscellaneous 108-91-8, Cyclohexylamine, miscellaneous
 108-94-1, Cyclohexanone, miscellaneous 108-95-2, Phenol, miscellaneous
 108-98-5, Phenyl mercaptan, miscellaneous 109-02-4 109-09-1,
 2-Chloropyridine 109-13-7, tert-Butyl peroxyisobutyrate 109-52-4,
 Valeric acid, miscellaneous 109-53-5, Vinyl isobutyl ether 109-60-4,
 n-Propyl acetate 109-61-5, n-Propyl chloroformate 109-63-7, Boron
 trifluoride diethyl etherate 109-65-9, n-Butyl bromide 109-66-0,
 Pentane, miscellaneous 109-70-6, 1-Chloro-3-bromopropane 109-73-9,
 n-Butylamine, miscellaneous 109-74-0, Butyronitrile 109-77-3,
 Malononitrile 109-79-5, Butyl mercaptan 109-86-4, Ethylene glycol
 monomethyl ether 109-87-5, Methylal 109-89-7, Diethylamine,
 miscellaneous 109-90-0, Ethyl isocyanate 109-92-2, Vinyl ethyl ether
 109-93-3, Divinyl ether 109-94-4, Ethyl formate 109-95-5, Ethyl
 nitrite 109-99-9, Tetrahydrofuran, miscellaneous 110-00-9, Furan
 110-01-0, Tetrahydrothiophene 110-02-1, Thiophene 110-12-3,
 5-Methylhexan-2-one 110-16-7, Maleic acid, miscellaneous 110-18-9
 110-19-0 110-22-5, Diacetyl peroxide 110-43-0, Amyl methyl
 ketone 110-49-6 110-54-3, Hexane, miscellaneous 110-58-7, Amylamine
 110-62-3, Valeraldehyde 110-66-7, Amyl mercaptan 110-68-9,
 N-Methylbutylamine 110-69-0, Butyraldoxime 110-71-4,
 1,2-Dimethoxyethane 110-74-7, Propyl formate 110-78-1, n-Propyl
 isocyanate 110-80-5, Ethylene glycol monoethyl ether 110-82-7,
 Cyclohexane, miscellaneous 110-83-8, Cyclohexene, miscellaneous
 110-85-0, Piperazine, miscellaneous 110-86-1, Pyridine, miscellaneous
 110-87-2 110-89-4, Piperidine, miscellaneous 110-91-8, Morpholine,
 miscellaneous 110-96-3, Diisobutylamine 111-15-9, Ethylene glycol
 monoethyl ether acetate 111-34-2, Butylvinyl ether 111-36-4, n-Butyl
 isocyanate 111-40-0 111-43-3, Dipropyl ether 111-49-9,

STN Columbus

Hexamethylenimine 111-65-9, Octane, miscellaneous 111-69-3,
 Adiponitrile 111-71-7, n-Heptaldehyde 111-76-2, Ethylene glycol
 monobutyl ether 111-92-2, Di-n-butylamine 112-04-9 112-24-3,
 Triethylenetetramine 112-57-2 115-07-1, Propylene, miscellaneous
 115-10-6, Dimethyl ether 115-11-7, Isobutylene, miscellaneous
 115-21-9, Ethyltrichlorosilane 115-25-3, Octafluorocyclobutane
 116-14-3, Tetrafluoroethylene, miscellaneous 116-15-4,
 Hexafluoropropylene 116-16-5, Hexachloroacetone 116-54-1, Methyl
 dichloroacetate 118-74-1, Hexachlorobenzene 118-96-7, Trinitrotoluene
 120-92-3, Cyclopentanone 121-43-7, Trimethyl borate 121-44-8,
 Triethylamine, miscellaneous 121-45-9, Trimethyl phosphite 121-46-0,
 2,5-Norbornadiene 121-69-7, N,N-Dimethylaniline, miscellaneous
 121-73-3 121-82-4, Cyclotrimethylenetrinitramine 122-51-0, Ethyl
 orthoformate 122-52-1, Triethyl phosphite 123-00-2,
 4-Morpholinepropanamine 123-15-9 123-19-3, Dipropylketone 123-20-6,
 Vinyl butyrate 123-23-9, Succinic acid peroxide 123-30-8,
 p-Aminophenol 123-31-9, Hydroquinone, miscellaneous 123-38-6,
 Propionaldehyde, miscellaneous 123-42-2, Diacetone alcohol 123-54-6,
 2,4-Pentanedione, miscellaneous 123-62-6, Propionic anhydride
 123-63-7, Paraldehyde 123-72-8, Butyraldehyde 123-75-1, Pyrrolidine,
 miscellaneous 123-86-4, Butyl acetate 123-91-1, Dioxane, miscellaneous
 124-02-7, Diallylamine 124-09-4, Hexamethylenediamine, miscellaneous
 124-13-0, Octyl aldehyde 124-18-5, n-Decane 124-38-9, Carbon dioxide,
 miscellaneous 124-40-3, Dimethylamine, miscellaneous 124-41-4, Sodium
 methylate 124-43-6 124-65-2, Sodium cacodylate 126-98-7,
 Methacrylonitrile 126-99-8, Chloroprene 127-18-4, Tetrachloroethylene,
 miscellaneous 127-85-5, Sodium arsanilate 129-79-3 131-52-2, Sodium
 pentachlorophenate 131-73-7, Hexanitrodiphenylamine 131-74-8, Ammonium
 picrate 133-14-2 133-55-1, N,N'-Dinitroso-N,N'-dimethyl
 terephthalamide 134-32-7, α -Naphthylamine 138-86-3, Dipentene
 138-89-6 139-02-6, Sodium phenolate
 RI: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (packaging and transport of, stds. for)
 IT 140-29-4, Phenylacetoneitrile 140-31-8, 1-Piperazineethanamine 140-80-7
 140-88-5 141-32-2 141-43-5, Ethanolamine, miscellaneous 141-57-1,
 Propyltrichlorosilane 141-59-3, tert-Octylmercaptan 141-75-3, Butyryl
 chloride 141-78-6, Ethyl acetate, miscellaneous 141-79-7, Mesityl
 oxide 142-04-1, Aniline hydrochloride 142-29-0, Cyclopentene
 142-62-1, Hexanoic acid, miscellaneous 142-82-5, Heptane, miscellaneous
 142-84-7, Dipropylamine 142-96-1, Dibutyl ether 143-33-9, Sodium
 cyanide 144-49-0, Fluoroacetic acid 144-62-7D, Ethanedioic acid, salts
 146-84-9, Silver picrate 149-74-6, Methylphenyldichlorosilane
 151-50-8, Potassium cyanide 151-56-4, Ethylenimine, miscellaneous
 156-62-7, Calcium cyanamide 260-94-6, Acridine 283-66-9, Hexamethylene
 triperoxide diamine 287-23-0, Cyclobutane 287-92-3, Cyclopentane
 291-64-5, Cycloheptane 298-00-0, Methyl parathion 298-07-7 302-01-2,
 Hydrazine, miscellaneous 309-00-2, Aldrin 352-93-2, Diethyl sulfide
 353-36-6, Ethyl fluoride 353-42-4, Boron trifluoride dimethyl etherate
 353-50-4, Carbonyl fluoride 353-59-3 354-32-5, Trifluoroacetylchloride
 357-57-3, Brucine 360-89-4, Octafluorobut-2-ene 428-59-1,
 Hexafluoropropylene oxide 431-03-8, Butanedione 460-19-5, Cyanogen
 462-06-6, Fluorobenzene 462-08-8, m-Aminopyridine 462-95-3,
 Diethoxymethane 463-04-7, Amyl nitrite 463-49-0, Propadiene
 463-58-1, Carbonyl sulfide 463-71-8, Thiophosgene 463-82-1,
 2,2-Dimethylpropane 479-45-8 501-53-1, Benzyl chloroformate
 502-98-7D, salts 503-74-2, Isopentanoic acid 504-24-5, 4-Pyridinamine
 504-29-0, 2-Pyridinamine 506-64-9, Silver cyanide (Ag(CN)) 506-68-3,
 Cyanogen bromide 506-77-4, Cyanogen chloride 506-85-4, Fulminic acid
 506-93-4, Guanidine nitrate 506-96-7, Acetyl bromide 507-02-8, Acetyl
 iodide 507-09-5, Thioacetic acid, miscellaneous 507-70-0, Borneol
 509-14-8, Tetranitromethane 512-85-6, Ascaridole 513-35-9,

STN Columbus

2-Methyl-2-butene 513-38-2 513-42-8, Methallyl alcohol 513-48-4,
 2-Iodobutane 513-86-0, Acetyl methyl carbinol 517-25-9,
 Trinitromethane 517-92-0, 1,8-Dihydroxy-2,4,5,7-tetranitroanthraquinone
 519-44-8D, 2,4-Dinitroresorcinol, heavy metal salts 532-27-4,
 Chloracetophenone 533-51-7, Silver oxalate 534-07-6,
 1,3-Dichloroacetone 534-15-6, 1,1-Dimethoxyethane 534-22-5,
 2-Methylfuran 535-13-7, Ethyl-2-chloropropionate 540-18-1, Amyl
 butyrate 540-42-1, Isobutyl propionate 540-54-5, Propyl chloride
 540-67-0, Ethyl methyl ether 540-73-8 540-82-9, Ethylsulfuric acid
 540-84-1, Isocotane 541-41-3, Ethyl chloroformate 542-55-2, Isobutyl
 formate 542-62-1, Barium cyanide 542-88-1, Dichlorodimethyl ether,
 symmetrical 543-27-1, Isobutyl chloroformate 543-59-9, Amyl chloride
 544-16-1, Butyl nitrite 544-25-2, Cycloheptatriene 544-97-8, Dimethyl
 zinc 545-55-1, Tris(1-aziridinyl)phosphine oxide 554-12-1, Methyl
 propionate 554-84-7, m-Nitrophenol 555-54-4, Magnesium diphenyl
 556-24-1, Methyl isovalerate 556-56-9, Allyl iodide 556-61-6, Methyl
 isothiocyanate 556-88-7 556-89-8, Nitrourea 557-17-5, Methyl propyl
 ether 557-19-7, Nickel cyanide (Ni(CN)2) 557-20-0, Diethylzinc
 557-21-1, Zinc cyanide 557-31-3, Allyl ethyl ether 557-40-4,
 Diallyl ether 557-98-2, 2-Chloropropene 558-13-4, Carbon tetrabromide
 563-45-1, 3-Methyl-1-butene 563-46-2, 2-Methyl-1-butene 563-47-3,
 Methyl allyl chloride 563-80-4, 3-Methylbutan-2-one 578-54-1,
 2-Ethylaniline 578-94-9, Diphenylamine chloroarsine 582-61-6, Benzoyl
 azide 583-15-3, Mercury benzoate 584-79-2, Allethrin 585-79-5,
 1-Bromo-3-nitrobenzene 586-62-9, Terpinolene 587-85-9D, compds.
 590-01-2, Butylpropionate 590-36-3, 2-Methylpentan-2-ol 591-27-5,
 m-Aminophenol 591-87-7, Allyl acetate 591-89-9, Mercuric potassium
 cyanide 592-01-8, Calcium cyanide 592-05-2, Lead cyanide (Pb(CN)2)
 592-34-7, n-Butylchloroformate 592-41-6, 1-Hexene, miscellaneous
 592-55-2, 2-Bromoethyl ethyl ether 592-63-2 592-84-7, n-Butylformate
 593-53-3, Methyl fluoride 593-60-2, Vinyl bromide 593-89-5,
 Methylchloroarsine 594-42-3, Perchloromethylmercaptan 594-72-9,
 1,1-Dichloro-1-nitroethane 598-14-1, Ethyldichloroarsine 598-21-0,
 Bromoacetyl bromide 598-31-2, Bromoacetone 598-57-2, Methyl nitramine
 598-57-2D, Methyl nitramine, metal salts 598-58-3, Methyl nitrate
 598-73-2, Bromotrifluoroethylene 598-78-7, α -Chloropropionic acid
 598-99-2, Methyl trichloroacetate 602-96-0, 1,3,5-Trimethyl-2,4,6-
 trinitrobenzene 602-99-3, Trinitro-m-cresol 602-99-3D, Methyl picric
 acid, heavy metal salts 608-50-4, 2,4-Dinitro-1,3,5-trimethylbenzene
 610-38-8, 4-Bromo-1,2-dinitrobenzene 616-38-6, Dimethyl carbonate
 616-74-0D, 4,6-Dinitroresorcinol, heavy metal salts 617-37-8 617-50-5,
 Isopropyl isobutyrate 617-89-0, Furfurylamine 619-97-6, Benzene
 diazonium nitrate 620-05-3, Benzyl iodide 622-44-6, Phenylcarbylamine
 chloride 622-45-7, Cyclohexyl acetate 623-42-7, Methyl butyrate
 623-87-0, Glycerol-1,3-dinitrate 624-61-3, Dibromoacetylene 624-74-8,
 Diiodoacetylene 624-83-9, Methyl isocyanate 624-91-9, Methyl nitrite
 624-92-0, Dimethyl disulfide 625-76-3, Dinitromethane 626-67-5,
 1-Methylpiperidine 627-13-4, n-Propyl nitrate 627-30-5 627-63-4,
 Fumaryl chloride 628-28-4, Butyl methyl ether 628-32-0, Ethyl propyl
 ether 628-63-7, Amyl acetate 628-81-9, Ethyl butyl ether 628-86-4,
 Mercury fulminate 628-92-2, Cycloheptene 628-96-6, Ethylene glycol
 dinitrate 629-13-0, 1,2-Diazidoethane 629-14-1 629-20-9,
 Cyclooctatetraene 630-08-0, Carbon monoxide, miscellaneous 630-72-8,
 Trinitroacetoneitrile 637-78-5, Isopropyl propionate 638-11-9,
 Isopropyl butyrate 638-29-9, Valeryl chloride 638-49-3, Amyl formate
 641-16-7, 2,3,4,6-Tetranitrophenol 644-31-5, Acetyl benzoyl
 peroxide 644-97-3, Phenyl phosphorus dichloride 645-55-6,
 N-Nitroaniline 646-06-0, Dioxolane 674-81-7, Nitrosoguanidine
 674-82-8, Diketene 676-83-5, Methyl phosphonous dichloride 676-97-1,
 Methyl phosphonic dichloride 676-98-2, Methyl phosphonoethioic dichloride
 677-71-4, Hexafluoroacetone hydrate 681-84-5, Methyl orthosilicate
 684-16-2, Hexafluoroacetone 693-21-0, Diethylene glycol dinitrate

STN Columbus

694-05-3, 1,2,3,6-Tetrahydropyridine 757-58-4, Hexaethyl tetraphosphate
 762-12-9, Decanoyl peroxide 762-13-0, Pelargonyl
 peroxide 762-16-3 765-34-4, Glycidaldehyde 766-09-6,
 1-Ethylpiperidine 771-29-9, Tetralin hydroperoxide 776-74-9,
 Diphenylmethyl bromide 814-78-8, Methyl isopropenyl ketone 822-06-0
 831-52-7, Sodium picramate 883-40-9, Diazodiphenylmethane 918-37-6,
 Hexanitroethane 918-54-7, Trinitroethanol 926-63-6 926-64-7,
 2-Dimethylaminoacetone nitrile 928-65-4, Hexyltrichlorosilane 929-06-6,
 2-(2-Aminoethoxy)ethanol 993-00-0, Methylchlorosilane 993-12-4
 993-43-1, Ethyl phosphonothioic dichloride 1002-16-0, Amyl nitrate
 1070-19-5, tert-Butoxycarbonyl azide 1120-21-4, Undecane 1125-27-5
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (packaging and transport of, stds. for)

IT 1126-78-9 1187-93-5, Perfluoromethyl vinyl ether 1299-86-1, Aluminum
 carbide 1300-64-7, Anisoyl chloride 1300-71-6, Xylenol 1300-73-8D,
 derivs. 1303-28-2, Arsenic pentoxide 1303-33-9, Arsenic sulfide
 1303-33-9D, Arsenic sulfide, mixt. with chlorates 1304-28-5, Barium
 oxide, miscellaneous 1304-29-6, Barium peroxide 1305-78-8,
 Calcium oxide, miscellaneous 1305-79-9, Calcium peroxide
 1305-99-3, Calcium phosphide 1309-60-0, Lead dioxide 1310-58-3,
 Potassium hydroxide, miscellaneous 1310-65-2, Lithium hydroxide
 1310-73-2, Sodium hydroxide, miscellaneous 1310-82-3, Rubidium hydroxide
 1312-73-8, Potassium sulfide 1313-60-6, Sodium peroxide
 1313-82-2, Sodium sulfide, miscellaneous 1314-18-7, Strontium
 peroxide 1314-22-3, Zinc peroxide 1314-24-5,
 Phosphorus trioxide 1314-34-7, Vanadium trioxide 1314-56-3, Phosphorus
 pentoxide, miscellaneous 1314-62-1, Vanadium pentoxide, miscellaneous
 1314-80-3, Phosphorus sulfide (P2S5) 1314-84-7, Zinc phosphide
 1314-85-8, Phosphorus sesquisulfide 1319-77-3, Cresylic acid
 1320-37-2, Dichlorotetrafluoroethane 1321-10-4, Chlorocresol
 1321-31-9, Phenetidine 1327-53-3, Arsenic trioxide 1330-20-7, Xylene,
 miscellaneous 1330-45-6, Chlorotrifluoroethane 1330-78-5, Tricresyl
 phosphate 1331-22-2, Methyl cyclohexanone 1332-12-3, Fulminating gold
 1332-37-2, Iron oxide, properties 1333-39-7, Phenolsulfonic acid
 1333-41-1, Picoline 1333-74-0, Hydrogen, miscellaneous 1333-82-0,
 Chromium trioxide 1333-83-1, Sodium hydrogen fluoride 1335-26-8,
 Magnesium peroxide 1335-31-5, Mercury oxycyanide 1335-85-9,
 Dinitro-o-cresol 1336-21-6, Ammonium hydroxide 1337-81-1 1338-23-4,
 Methyl ethyl ketone peroxide 1341-24-8, Chloroacetophenone
 1341-49-7, Ammonium hydrogen fluoride 1344-40-7, Lead phosphite, dibasic
 1344-67-8, Copper chloride 1498-40-4, Ethyl phosphonous dichloride
 1498-51-7, Ethyl phosphorodichloridate 1569-69-3, Cyclohexyl mercaptan
 1609-86-5, tert-Butyl isocyanate 1623-15-0 1623-24-1, Isopropyl acid
 phosphate 1634-04-4, Methyl-tert-butyl ether 1693-71-6, Triallyl
 borate 1705-60-8, 2,2-Di(4,4-di-tert-butylperoxycyclohexyl)propane
 1712-64-7, Isopropyl nitrate 1719-53-5, Diethyldichlorosilane
 1737-93-5, 3,5-Dichloro-2,4,6-trifluoropyridine 1769-58-8,
 Ethyldichlorosilane 1795-48-8, Isopropyl isocyanate 1838-59-1, Allyl
 formate 1873-29-6, Isobutyl isocyanate 1885-14-9, Phenylchloroformate
 1947-27-9, Arsenic trichloride 2050-92-2, Di-n-amylamine 2094-98-6,
 1,1'-Azodi(hexahydrobenzotriazole) 2144-45-8, Dibenzyl peroxydicarbonate
 2155-71-7 2167-23-9, 2,2-Di(tert-butylperoxy)butane 2217-06-3,
 Dipicryl sulfide 2243-94-9, 1,3,5-Trinitronaphthalene 2244-21-5,
 Potassium dichloroisocyanurate 2294-47-5, p-Diazidobenzene 2312-76-7
 2338-12-7, 5-Nitrobenzotriazole 2487-90-3, Trimethoxysilane 2508-19-2,
 Trinitrobenzenesulfonic acid 2524-03-0, Dimethyl chlorothiophosphate
 2524-04-1, Diethylthiophosphoryl chloride 2549-51-1, Vinyl chloroacetate
 2551-62-4, Sulfur hexafluoride 2567-83-1, Tetraethylammonium perchlorate
 2657-00-3, Sodium 2-diazo-1-naphthol-5-sulfonate 2691-41-0,
 Cyclotetramethylenetetranitramine 2696-92-6, Nitrosyl chloride
 2699-79-8, Sulfuryl fluoride 2782-57-2, Dichloroisocyanuric acid

STN Columbus

2782-57-2D, Dichloroisocyanuric acid, salts 2820-51-1, Nicotine hydrochloride 2825-15-2 2855-13-2, Isophoronediamine 2867-47-2, Dimethylaminoethyl methacrylate 2893-78-9, Sodium dichloroisocyanurate 2937-50-0, Allyl chloroformate 2941-64-2, Ethyl chlorothioformate 2980-64-5 3025-88-5, 2,5-Dimethyl-2,5-dihydroperoxy hexane 3031-74-1, Ethyl hydroperoxide 3032-55-1 3054-95-3, 3,3-Diethoxypropene 3087-37-4, Tetrapropylorthotitanate 3129-90-6, Isothiocyanic acid 3129-91-7, Dicyclohexylammonium nitrite 3132-64-7, Epibromohydrin 3165-93-3, 4-Chloro-o-toluidine hydrochloride 3173-53-3, Cyclohexyl isocyanate 3179-56-4, Acetyl cyclohexanesulfonyl peroxide 3188-13-4, Chloromethyl ethyl ether 3248-28-0, Dipropionyl peroxide 3268-49-3 3275-73-8, Nicotine tartrate 3282-30-2, Trimethylacetyl chloride 3497-00-5, Phenyl phosphorus thiodichloride 3689-24-5 3724-65-0, Crotonic acid 3811-04-9, Potassium chlorate 3926-62-3, Sodium chloroacetate 3982-91-0, Thiophosphoryl chloride 4016-11-9, 1,2-Epoxy-3-ethoxypropane 4098-71-9 4109-96-0, Dichlorosilane 4170-30-3, Crotonaldehyde 4300-97-4 4316-42-1, N-n-Butylimidazole 4419-11-8, 2,2'-Azodi(2,4-dimethylvaleronitrile) 4421-50-5 4435-53-4, Butoxyl 4452-58-8, Sodium percarbonate 4472-06-4, Carbonazidodithioic acid 4484-72-4, Dodecyltrichlorosilane 4528-34-1 4547-70-0 4591-46-2 4682-03-5, Diazodinitrophenol 4795-29-3, Tetrahydrofurfurylamine 4904-61-4, 1,5,9-Cyclododecatriene 5283-66-9, Octyltrichlorosilane 5283-67-0, Nonyltrichlorosilane 5329-14-6, Sulfamic acid 5419-55-6, Triisopropyl borate 5610-59-3, Silver fulminate 5637-83-2, Cyanuric triazide 5653-21-4 5894-60-0, Hexadecyltrichlorosilane 5970-32-1, Mercury salicylate 6023-29-6 6275-02-1 6423-43-4 6427-21-0, Methoxymethyl isocyanate 6484-52-2, Nitric acid ammonium salt, properties 6484-52-2D, Ammonium nitrate, mixts. with fuel oils 6505-86-8, Nicotine sulfate 6659-60-5, 1,2,4-Butanetriol trinitrate 6842-15-5, Propylene tetramer 7304-92-9 7332-16-3, Inositol hexanitrate 7429-90-5, Aluminum, miscellaneous 7429-90-5D, Aluminum, alkyl derivs. 7439-90-9, Krypton, miscellaneous 7439-92-1D, Lead, compds. 7439-93-2, Lithium, miscellaneous 7439-93-2D, Lithium, alkyl derivs. 7439-95-4, Magnesium, miscellaneous 7439-95-4D, Magnesium, alkyl derivs. 7439-97-6, Mercury, miscellaneous 7439-97-6D, Mercury, compds. 7440-01-9, Neon, miscellaneous 7440-09-7, Potassium, miscellaneous 7440-17-7, Rubidium, miscellaneous 7440-21-3, Silicon, miscellaneous 7440-23-5, Sodium, miscellaneous 7440-28-0D, Thallium, compds. 7440-29-1, Thorium, miscellaneous 7440-31-5D, Tin, org. compds. 7440-32-6, Titanium, properties 7440-36-0, Antimony, miscellaneous 7440-36-0D, Antimony, inorg. and org. compds. 7440-37-1, Argon, miscellaneous 7440-38-2, Arsenic, miscellaneous 7440-39-3, Barium, miscellaneous 7440-39-3D, Barium, alloys 7440-39-3D, Barium, compds. 7440-41-7, Beryllium, miscellaneous 7440-41-7D, Beryllium, compds. 7440-43-9D, Cadmium, compds. 7440-44-0, Carbon, miscellaneous 7440-45-1, Cerium, miscellaneous 7440-46-2, Cesium, miscellaneous 7440-55-3, Gallium, miscellaneous 7440-58-6, Hafnium, miscellaneous 7440-59-7, Helium, miscellaneous 7440-61-1, Uranium, miscellaneous 7440-63-3, Xenon, miscellaneous 7440-66-6, Zinc, miscellaneous 7440-67-7, Zirconium, miscellaneous 7440-70-2, Calcium, miscellaneous 7440-70-2D, Calcium, alloys 7446-09-5, Sulfur dioxide, miscellaneous 7446-11-9, Sulfur trioxide, miscellaneous 7446-14-2, Lead sulfate 7446-18-6, Thallium sulfate 7446-70-0, Aluminum chloride (AlCl₃), miscellaneous 7487-94-7, Mercuric chloride, miscellaneous 7488-56-4, Selenium disulfide 7521-80-4, Butyltrichlorosilane 7550-45-0, Titanium tetrachloride, miscellaneous 7570-26-5, 1,2-Dinitroethane 7572-29-4, Dichloroacetylene 7578-36-1 7580-67-8, Lithium hydride 7601-89-0, Sodium perchlorate 7601-90-3, Perchloric acid, miscellaneous 7616-94-6, Perchloryl fluoride 7631-89-2, Sodium arsenate 7631-99-4, Sodium nitrate, miscellaneous 7632-00-0, Sodium nitrite 7632-51-1, Vanadium tetrachloride 7637-07-2, Boron trifluoride, miscellaneous 7645-25-2, Lead arsenate 7646-69-7, Sodium hydride 7646-78-8, Stannic

STN Columbus

chloride, miscellaneous 7646-85-7, Zinc chloride, miscellaneous
 7646-93-7, Potassium hydrogen sulfate 7647-01-0, Hydrogen chloride,
 miscellaneous 7647-18-9, Antimony pentachloride 7647-19-0, Phosphorus
 pentafluoride
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 or chemical process); BIOL (Biological study); PROC (Process)
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IT 7664-38-2, Phosphoric acid, miscellaneous 7664-38-2D, Phosphoric acid,
 esters 7664-39-3, Hydrogen fluoride, miscellaneous 7664-41-7, Ammonia,
 miscellaneous 7664-93-9, Sulfuric acid, miscellaneous 7681-38-1,
 Sodium hydrogen sulfate 7681-49-4, Sodium fluoride, miscellaneous
 7681-52-9, Sodium hypochlorite 7697-37-2, Nitric acid, miscellaneous
 7704-34-9, Sulfur, miscellaneous 7705-07-9D, Titanium trichloride,
 mixts. 7705-08-0, Ferric chloride, miscellaneous 7718-98-1, Vanadium
 trichloride 7719-09-7, Thionyl chloride 7719-12-2, Phosphorus
 trichloride 7722-64-7, Potassium permanganate 7722-84-1, Hydrogen
 peroxide (H2O2), miscellaneous 7723-14-0, Phosphorus,
 miscellaneous 7726-95-6, Bromine, miscellaneous 7727-15-3, Aluminum
 bromide 7727-18-6, Vanadium oxytrichloride 7727-21-1, Potassium
 persulfate 7727-37-9, Nitrogen, miscellaneous 7727-37-9D, Nitrogen,
 mixts. with rare gases 7727-54-0, Ammonium persulfate 7738-94-5,
 Chromic acid (H2CrO4) 7756-94-7, Triisobutylene 7757-79-1, Potassium
 nitrate, miscellaneous 7758-01-2, Potassium bromate 7758-09-0,
 Potassium nitrite 7758-19-2, Sodium chlorite 7758-94-3, Ferrous
 chloride 7761-88-8, Silver nitrate, miscellaneous 7773-03-7, Potassium
 bisulfite 7775-09-9, Sodium chlorate 7775-14-6, Sodium dithionite
 7778-39-4, Arsenic acid 7778-44-1, Calcium arsenate 7778-54-3, Calcium
 hypochlorite 7778-66-7 7778-74-7, Potassium perchlorate 7779-86-4,
 Zinc dithionite 7779-88-6, Zinc nitrate 7782-39-0, Deuterium,
 miscellaneous 7782-41-4, Fluorine, miscellaneous 7782-44-7, Oxygen,
 miscellaneous 7782-44-7D, Oxygen, mixts. with rare gases 7782-49-2,
 Selenium, miscellaneous 7782-50-5, Chlorine, miscellaneous 7782-65-2,
 Germane 7782-78-7, Nitrosylsulfuric acid 7782-79-8D, Hydrazoic acid,
 copper complexes 7782-99-2, Sulfurous acid, miscellaneous 7783-06-4,
 Hydrogen sulfide, miscellaneous 7783-07-5, Hydrogen selenide (H2Se)
 7783-08-6, Selenic acid 7783-33-7 7783-41-7, Oxygen difluoride
 7783-54-2, Nitrogen trifluoride 7783-56-4, Antimony trifluoride
 7783-60-0, Sulfur tetrafluoride 7783-61-1, Silicon tetrafluoride
 7783-66-6, Iodine pentafluoride 7783-70-2, Antimony pentafluoride
 7783-79-1, Selenium hexafluoride 7783-80-4, Tellurium hexafluoride
 7783-81-5, Uranium hexafluoride 7783-82-6, Tungsten hexafluoride
 7783-91-7, Silver chlorite 7784-08-9 7784-21-6, Aluminum hydride
 7784-30-7, Aluminum phosphate 7784-42-1, Arsine 7784-46-5, Sodium
 arsenite 7786-30-3D, Magnesium chloride (MgCl2), mixt. with chlorates
 7787-36-2, Barium permanganate 7787-41-9, Barium selenate 7787-71-5,
 Bromine trifluoride 7788-97-8, Chromic fluoride 7789-09-5, Ammonium
 dichromate 7789-18-6, Cesium nitrate 7789-21-1, Fluorosulfonic acid
 7789-23-3, Potassium fluoride 7789-29-9, Potassium bifluoride
 7789-30-2, Bromine pentafluoride 7789-38-0, Sodium bromate 7789-59-5,
 Phosphorus oxybromide 7789-60-8, Phosphorus tribromide 7789-61-9,
 Antimony tribromide 7789-69-7, Phosphorus pentabromide 7789-78-8,
 Calcium hydride 7790-59-2 7790-69-4, Lithium nitrate 7790-91-2,
 Chlorine trifluoride 7790-93-4, Chloric acid 7790-94-5, Chlorosulfonic
 acid 7790-98-9, Ammonium perchlorate 7790-99-0, Iodine monochloride
 7791-10-8, Strontium chlorate 7791-23-3, Selenium oxychloride
 7791-25-5, Sulfuryl chloride 7791-27-7, Disulfuryl chloride 7803-51-2,
 Phosphine 7803-52-3, Stibine 7803-54-5, Magnesium diamide 7803-55-6,
 Ammonium metavanadate 7803-57-8, Hydrazine hydrate 7803-62-5, Silane,
 miscellaneous 7803-63-6, Ammonium hydrogen sulfate 8004-09-9
 8006-19-7, Amatol 8006-28-8, Soda lime 8007-56-5, Nitrohydrochloric
 acid 8007-58-7 8012-74-6, London Purple 8014-95-7, Fuming sulfuric
 acid 8049-17-0, Ferrosilicon 8050-88-2, Celluloid 8063-77-2

STN Columbus

8065-53-0, Hexolite 8066-33-9, Pentolite 8070-50-6 9003-53-6,
 Polystyrene 9004-70-0, Collodion 9056-38-6, Nitrostarch 9080-17-5,
 Ammonium polysulfide 10022-31-8, Barium nitrate 10024-97-2, Nitrogen
 oxide (N2O), properties 10025-78-2, Trichlorosilane 10025-85-1,
 Nitrogen trichloride 10025-87-3, Phosphorus oxychloride 10025-91-9,
 Antimony trichloride 10026-04-7, Silicon tetrachloride 10026-11-6,
 Zirconium tetrachloride 10026-13-8, Phosphorus pentachloride
 10031-13-7 10031-87-5, 2-Ethylbutyl acetate 10034-81-8, Magnesium
 perchlorate 10034-85-2, Hydrogen iodide 10035-10-6, Hydrogen bromide,
 miscellaneous 10039-54-0, Hydroxylamine sulfate 10042-76-9, Strontium
 nitrate 10045-94-0, Mercuric nitrate 10049-04-4, Chlorine dioxide
 10099-74-8, Lead nitrate 10101-50-5 10102-06-4, Uranyl nitrate
 10102-12-2, Selenium nitride 10102-18-8, Sodium selenite 10102-43-9,
 Nitric oxide, miscellaneous 10102-44-0, Nitrogen dioxide, miscellaneous
 10102-49-5, Ferric arsenate 10102-50-8, Ferrous arsenate 10103-50-1,
 Magnesium arsenate 10118-76-0 10124-37-5, Calcium nitrate
 10124-48-8, Mercury ammonium chloride 10124-50-2, Potassium arsenite
 10137-74-3, Calcium chlorate 10192-29-7, Ammonium chlorate 10241-05-1,
 Molybdenum pentachloride 10256-53-8, Methanamine, compd. with
 trinitromethane, miscellaneous 10294-33-4, Boron tribromide
 10294-34-5, Boron trichloride 10306-83-9 10326-21-3, Magnesium
 chlorate 10326-24-6 10361-95-2, Zinc chlorate 10377-60-3, Magnesium
 nitrate 10377-66-9, Manganese nitrate 10415-75-5, Mercurous nitrate
 10421-48-4, Ferric nitrate 10431-47-7 10544-63-5, Ethyl crotonate
 11069-19-5, Dichlorobutene 11071-47-9, Isooctene 11099-22-2
 11105-16-1, Zirconium hydride 11122-26-2 11135-81-2 11138-49-1,
 Sodium aluminate 11140-68-4, Titanium hydride 12001-28-4, Crocidolite
 12001-29-5, Chrysotile 12002-19-6, Mercury nucleate 12002-48-1,
 Trichlorobenzene 12030-88-5, Potassium superoxide 12031-80-0, Lithium
 peroxide 12033-49-7, Nitrogen trioxide 12034-12-7, Sodium
 superoxide 12057-74-8, Magnesium phosphide (Mg3P2) 12125-01-8,
 Ammonium fluoride 12135-76-1, Ammonium sulfide 12136-15-1, Mercury
 nitride 12164-94-2, Ammonium azide 12167-20-3, Nitrocresol
 12172-67-7, Actinolite 12401-70-6, Potassium monoxide 12401-86-4,
 Sodium monoxide 12427-38-2, Maneb 12440-42-5, Tin phosphide (Sn3P4)
 12504-16-4, Strontium phosphide (Sr3P2) 12627-52-0, Antimony sulfide
 12627-52-0D, Antimony sulfide, mixt. with chlorates 12640-89-0, Selenium
 oxide 12653-71-3, Mercury oxide 12737-18-7, Calcium silicide
 12751-03-0, Cordite 12771-08-3, Sulfur chloride 12789-46-7, Amyl acid
 phosphate 13092-75-6, Silver acetylide 13138-45-9 13225-10-0,
 α-Methylglucoside tetranitrate 13319-75-0, Boron trifluoride
 dihydrate 13410-01-0, Sodium selenate 13424-46-9, Lead azide
 13426-91-0, Cupriethylenediamine 13437-80-4, Mercuric arsenate
 13444-85-4, Nitrogen triiodide 13446-10-1, Ammonium permanganate
 13446-48-5, Ammonium nitrite 13450-97-0, Strontium perchlorate
 13453-30-0, Thallium chlorate 13463-39-3, Nickel carbonyl 13463-40-6,
 Iron pentacarbonyl 13464-33-0, Zinc arsenate 13464-58-9D, Arsenous
 acid, copper complexes 13465-73-1, Bromosilane 13465-95-7, Barium
 perchlorate 13472-08-7 13473-90-0, Aluminum nitrate 13477-00-4,
 Barium chlorate 13477-10-6, Barium hypochlorite 13477-36-6, Calcium
 perchlorate 13520-83-7, Uranyl nitrate hexahydrate 13537-32-1,
 Fluorophosphoric acid 13548-38-4, Chromium nitrate
 RI: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
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 (packaging and transport of, stds. for)
 IT 13597-54-1, Zinc selenate 13597-99-4, Beryllium nitrate 13598-36-2,
 Phosphonic acid 13637-63-3, Chlorine pentafluoride 13637-76-8, Lead
 perchlorate 13718-59-7 13746-89-9, Zirconium nitrate 13762-51-1,
 Potassium borohydride 13766-44-4, Mercury sulfate 13769-43-2,
 Potassium metavanadate 13770-96-2, Sodium aluminum hydride 13774-25-9
 13779-41-4, Difluorophosphoric acid 13780-03-5, Calcium bisulfite
 13823-29-5, Thorium nitrate 13840-33-0, Lithium hypochlorite

STN Columbus

13840-33-0D, Lithium hypochlorite, mixts. 13843-59-9, Ammonium bromate
 13863-88-2, Silver azide 13967-90-3, Barium bromate 13973-87-0,
 Bromine azide 13973-88-1, Chlorine azide 13987-01-4, Tripropylene
 14014-86-9 14019-91-1, Calcium selenate 14293-73-3 14448-38-5,
 Hyponitrous acid 14519-07-4, Zinc bromate 14519-17-6, Magnesium
 bromate 14546-44-2, Hydrazine azide 14567-73-8, Tremolite
 14644-61-2, Zirconium sulfate 14666-78-5, Diethylperoxydicarbonate
 14674-72-7, Calcium chlorite 14696-82-3, Iodine azide (I(N3))
 14977-61-8 15195-06-9 15245-44-0, Lead trinitroresorcinat
 15347-57-6, Lead acetate 15457-98-4 15512-36-4, Calcium dithionite
 15545-97-8, 2,2'-Azodi(2,4-dimethyl-4-methoxyvaleronitile) 15598-34-2,
 Pyridine perchlorate 15718-71-5, Ethylenediamine diperchlorate
 15825-70-4, Mannitol hexanitrate 15875-44-2, Methylamine perchlorate
 16215-49-9, Di-n-butyl peroxydicarbonate 16229-43-9, Vanadyl sulfate
 16339-86-9 16646-35-8 16721-80-5, Sodium hydrosulfide 16753-36-9,
 Copper acetylde 16853-85-3, Lithium aluminum hydride 16871-71-9, Zinc
 fluorosilicate 16871-90-2, Potassium fluorosilicate 16872-11-0
 16893-86-9, Sodium fluorosilicate 16901-76-1, Thallium nitrate
 16919-19-0, Ammonium fluorosilicate 16940-66-2, Sodium borohydride
 16940-81-1, Hexafluorophosphoric acid 16941-12-1, Chloroplatinic acid
 16949-15-8, Lithium borohydride 16949-65-8, Magnesium fluorosilicate
 16961-83-4, Fluorosilicic acid 16962-07-5, Aluminum borohydride
 17014-71-0, Potassium peroxide 17068-78-9, Anthophyllite
 17462-58-7, sec-Butyl chloroformate 17639-93-9, Methyl-2-
 chloropropionate 17687-37-5, Urea nitrate 17702-41-9, Decaborane
 17861-62-0 18130-44-4, Titanium sulfate 18414-36-3 18810-58-7,
 Barium azide 19159-68-3 19287-45-7, Diborane 19287-45-7D, Diborane,
 mixts. 19624-22-7, Pentaborane 20062-22-0 20236-55-9, Barium
 styphnate 20600-96-8 20816-12-0, Osmium tetroxide 20820-44-4
 20859-73-8, Aluminum phosphide 21351-79-1, Cesium hydroxide (Cs(OH))
 21569-01-7 21723-86-4 21985-87-5, Pentanitroaniline 22128-62-7,
 Chloromethylchloroformate 22750-93-2, Ethyl perchlorate 22751-24-2
 22826-61-5 23414-72-4, Zinc permanganate 23745-86-0, Potassium
 fluoroacetate 24167-76-8, Sodium phosphide 24468-13-1,
 2-Ethylhexylchloroformate 24884-69-3 25013-15-4, Vinyl toluene
 25109-57-3 25134-21-8 25136-55-4, Dimethyldioxane 25154-42-1,
 Chlorobutane 25154-54-5, Dinitrobenzene 25155-15-1, Cymene
 25167-20-8, Tetrabromoethane 25167-67-3, Butylene 25167-70-8,
 Diisobutylene 25167-80-0, Chlorophenol 25168-05-2, Chlorotoluene
 25265-68-3, Methyltetrahydrofuran 25321-14-6, Dinitrotoluene
 25322-01-4, Nitropropane 25322-20-7, Tetrachloroethane 25323-30-2,
 Dichloroethylene 25339-56-4, Heptene 25340-17-4, Diethylbenzene
 25377-72-4, n-Amylene 25496-08-6, Fluorotoluene 25497-28-3,
 Difluoroethane 25497-29-4, Chlorodifluoroethane 25513-64-8
 25550-53-2 25550-55-4, Dinitrosobenzene 25550-58-7, Dinitrophenol
 25550-58-7D, Dinitrophenol, salts 25567-67-3, Chlorodinitrobenzene
 25567-68-4, Chloronitrotoluene 25639-42-3, Methylcyclohexanol
 25721-38-4, Lead picrate 25917-35-5, Hexanol 26134-62-3, Lithium
 nitride 26140-60-3D, Terphenyl, halo derivs. 26249-12-7,
 Dibromobenzene 26471-56-7, Dinitroaniline 26471-62-5, Toluene
 diisocyanate 26506-47-8, Copper chlorate 26571-79-9 26618-70-2
 26628-22-8, Sodium azide 26638-19-7, Dichloropropane 26645-10-3
 26760-64-5, Isopentene 26762-93-6 26914-02-3, Iodopropane
 26915-12-8, Toluidine 26952-23-8, Dichloropropene 26952-42-1,
 Trinitroaniline 27134-26-5, Chloroaniline 27134-27-6, Dichloroaniline
 27137-85-5, Dichlorophenyltrichlorosilane 27152-57-4 27176-87-0,
 Dodecylbenzenesulfonic acid 27195-67-1, Dimethylcyclohexane 27215-10-7
 27236-46-0, Isohexene 27254-36-0, Nitronaphthalene 27458-20-4,
 Butyltoluene 27978-54-7, Hydrazine perchlorate 27986-95-4
 27987-06-0, Trifluoroethane 28260-61-9, Trinitrochlorobenzene
 28300-74-5, Antimony potassium tartrate 28324-52-9, Pinane hydroperoxide
 28479-22-3 28653-16-9 28679-16-5, Trimethylhexamethylenediisocyanate

STN Columbus

28805-86-9, Butylphenol 29191-52-4, Anisidine 29306-57-8 29790-52-1,
 Nicotine salicylate 29903-04-6 29965-97-7, Cyclooctadiene
 30236-29-4, Sucrose octanitrate 30525-89-4, Paraformaldehyde
 30553-04-9, Naphthylthiourea 30586-10-8, Dichloropentane 30586-18-6,
 Pentamethylheptane 31058-64-7 31212-28-9, Nitrobenzenesulfonic acid
 33453-96-2 33864-17-4 34216-34-7, Trimethylcyclohexylamine
 35296-72-1, Butanol 35860-50-5, Trinitrobenzoic acid 35860-51-6,
 Dinitroresorcinol 35884-77-6, Xylol bromide 36472-34-1, Chloropropene
 37020-93-2, Mercury cyanide (Hg(CN)) 37187-22-7, Acetyl acetone
 peroxide 37206-20-5, Methyl isobutyl ketone peroxide
 37273-91-9, Metaldehyde 37320-91-5, Mercury iodide 37368-10-8,
 Aluminum vanadium oxide 38139-71-8, Bromide chloride 38232-63-2,
 Mercurous azide 38483-28-2, Methylene glycol dinitrate 39377-49-6,
 Copper cyanide 39377-56-5, Lead sulfide 39404-03-0, Magnesium silicide
 39409-64-8, TVOPA 39432-81-0 39455-80-6, Ammonium sodium vanadium
 oxide 39990-99-3, Lithium acetylde ethylenediamine complex
 40058-87-5, Isopropyl-2-chloropropionate 41195-19-1 41587-36-4,
 Chloronitroaniline 42296-74-2, Hexadiene 43133-95-5, Methylpentane
 50815-73-1 50874-93-6 51006-59-8 51023-22-4, Trichlorobutene
 51064-12-1 51312-23-3, Mercury bromide 51317-24-9, Lead
 nitroresorcinate 51325-42-9, Copper selenite 51845-86-4, Ethyl borate
 52181-51-8 53014-37-2, Tetranitroaniline 53408-91-6, Mercury
 thiocyanate 53422-49-4 53569-62-3 53839-08-0 53906-68-6
 54141-09-2, 1,4-Butynediol 54413-15-9, Tritonal 54727-89-8 54958-71
 -3 55510-04-8, Dinitroglycoluril 55810-17-8 56929-36-3 56960-91-9
 57607-37-1, Octolite 58164-88-8, Antimony lactate 58499-37-9
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering
 or chemical process); BIOL (Biological study); PROC (Process)
 (packaging and transport of, stds. for)
 IT 58933-55-4 59753-21-8 59917-23-6 60168-33-4 60616-74-2, Magnesium
 hydride 60869-68-3 60999-18-0 61061-91-4 61878-56-6 63085-06-3
 63283-80-7, Dichloroisopropyl ether 63597-41-1, Octadiene 63885-01-8
 63907-41-5 63937-14-4 63938-10-3, Chlorotetrafluoroethane 63988-31-8
 64173-96-2 64973-06-4, Arsenic bromide 66634-68-2 67632-66-0
 68833-55-6, Mercury acetylde (Hg(C2H)) 68848-64-6 68975-47-3,
 Ischeptene 69523-06-4, Ferrocenium 69782-73-6 70027-50-8, Copper
 selenate 70042-58-9, tert-Butylcyclohexylchloroformate 70268-38-1
 70268-40-5 70281-33-3 70288-87-8 70288-89-0 70399-13-2, Lithium
 ferrosilicon 72672-48-1 73506-32-8, Hydrazine selenate 76080-77-8
 77851-23-1 78369-83-2 79869-58-2, Propanethiol 81228-87-7,
 Cyclobutylchloroformate 82280-63-5 83267-52-1 84002-64-2
 87686-42-8 90920-71-1 95332-73-3 98130-51-9 98205-29-9
 100920-70-5 102437-81-0 105185-95-3 105554-30-1 109259-85-0
 118833-38-8 125227-17-0 127795-79-3, Ammonium arsenate 131566-30-8,
 Potassium phosphide 132052-03-0, Pesticide S 134009-81-7, Fulminating
 platinum 134010-02-9, Fulminating silver 134115-62-1 134115-63-2,
 Piperazinedipropylamine 134115-64-3 134115-65-4 134115-66-5
 134115-68-7 134115-69-8 134115-70-1 134115-70-1b, salts
 134115-71-2 134115-72-3 134115-73-4 134115-74-5 134115-75-6
 134115-76-7 134140-03-7 134140-11-7 134170-48-2 134191-17-6,
 Azauric acid 134191-62-1 134206-87-4 134206-88-5, Sodium
 chlorate-dinitrotoluene mixture 134206-89-6 134207-07-1 134226-92-9
 134265-01-3 134282-14-7, Ammonium fulminate 134282-15-8 134282-16-9,
 5-Azido-1-hydroxytetrazole 134282-17-0 134282-18-1 134282-19-2
 134282-20-5 134282-21-6 134282-23-8, 1,9-Dinitroxypentamethylene-
 2,4,6,8-tetramine 134282-24-9 134282-25-0 134282-26-1 134282-27-2
 134282-28-3 134282-30-7 134282-30-7D, salts 134282-31-8
 134282-34-1 134282-35-2 134282-37-4 134282-38-5 134282-39-6
 134282-40-9 134282-41-0 134282-42-1, 2,4,6-Trinitrophenyl guanidine
 134282-43-2 134293-21-3 134293-22-4 134293-23-5 134293-24-6,
 2,3,5,6-Tetranitroso-1,4-dinitrobenzene 134309-18-5 134318-55-1
 134318-56-2 134356-41-5 134884-20-1, Aluminum magnesium phosphide

STN Columbus

135072-82-1 135099-37-5 135991-25-2, Galactan trinitrate 135991-28-5
 135991-41-2 135991-57-0
 RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process) (packaging and transport of, stds. for)

IT 78-11-5P
 RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)

L2 ANSWER 15 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text

AN 1990:615153 CAPLUS
 DN 113:215153
 TI Removal of asphalt or resin from hydrocarbons using both organic solvents and water
 IN Muller, Alain
 PA Societe Nationale Elf Aquitaine (SNEA), Fr.
 SO PCT Int. Appl., 19 pp.
 CODEN: PIXXD2

DT Patent
 LA French

IC ICM C10G021-00
 CC 51-4 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 9006350	A1	19900614	WO 1989-FR601	19891123
	W: JP, US				
	RW: BE, DE, GB, IT, NL				
	FR 2639649	A1	19900601	FR 1988-15387	19881125
	FR 2639649	B1	19910125		
	EP 420946	A1	19910410	EP 1989-913186	19891123
	R: BE, DE, GB, IT, NL				
	JP 03502342	T2	19910530	JP 1990-500209	19891123
	CA 2003833	AA	19900525	CA 1989-2003833	19891124
PRAI	FR 1988-15387		19881125		
	WO 1989-FR601		19891123		
AB	Asphalt and/or resin is removed from a hydrocarbon feedstock, e.g., asphalt-contg. crude oil, distn. residues, or deasphalted petroleum by solvent extn. using water contg. a surfactant, e.g., a sulfonate, and metal salts to sep. the hydrocarbon-solvent emulsion. The mixt. seps. into an upper layer of treated hydrocarbons in solvent, a middle layer of water, and a bottom layer contg. the asphalt and/or resin. Prior to sepn. the mixt. is agitated for 30 s to 10 min at ambient temp. to 170°.				
ST	asphalt solvent extn petroleum; resin solvent extn petroleum				
IT	Gasoline				
	RL: USES (Uses)				
	(as org. solvent, for removal of asphalts and resins from hydrocarbon feedstocks, aq. solns. in)				
IT	Petroleum refining				
	(asphalt removal in, by solvent extn. using org. solvents in water)				
IT	Surfactants				
	(in solvent extn. of asphalt and resins from hydrocarbon feedstocks)				
IT	Solvents				
	(org., in removal of asphalts and resins from hydrocarbon feedstocks by extn.)				
IT	Asphalt				
	Petroleum resins				
	RL: REM (Removal or disposal); PROC (Process)				
	(removal of, from hydrocarbon feedstocks by solvent extn. using org. solvents in water)				
IT	Chlorides, uses and miscellaneous				

STN Columbus

RL: USES (Uses)
(water contg., in solvent extn. of asphalts and resins from hydrocarbon feedstocks by org. solvents)

IT Hydrocarbons, uses and miscellaneous
RL: USES (Uses)
(C3-12, as org. solvents, for removal of asphalts and resins from hydrocarbon feedstocks, aq. solns. in)

IT Hydrocarbons, uses and miscellaneous
RL: USES (Uses)
(C3-7, as org. solvents, for removal of asphalts and resins from hydrocarbon feedstocks, aq. solns. in)

IT Carbonates, uses and miscellaneous
RL: USES (Uses)
(hydrogen, water contg., in solvent extn. of asphalts and resins from hydrocarbon feedstocks by org. solvents)

IT 577-11-7, Sodium dioctylsulfosuccinate 25155-30-0, Sodium dodecylbenzenesulfonate 116453-32-8
RL: USES (Uses)
(surfactant, in removal of asphalts and resins from hydrocarbons using org. solvents in water)

IT 64-17-5, Ethanol, uses and miscellaneous 67-64-1, 2-Propanone, uses and miscellaneous 78-93-3, 2-Butanone, uses and miscellaneous 98-01-1, 2-Furancarboxaldehyde, uses and miscellaneous 107-21-1, 1,2-Ethanediol, uses and miscellaneous 124-38-9, Carbon dioxide, uses and miscellaneous 872-50-4, uses and miscellaneous 7705-08-0, Iron chloride (FeCl3), uses and miscellaneous 7722-84-1, Hydrogen peroxide (H2O2), uses and miscellaneous
RL: USES (Uses)
(water contg., in solvent extn. of asphalts and resins from hydrocarbon feedstocks by org. solvents)

L2 ANSWER 16 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1990:124580 CAPLUS
DN 112:124580
TI Process for purifying an aqueous, hydrogen sulfide-scrubbing solution
IN Koepke, Jeffery W.; Delaney, Dennis D.
PA Union Oil Co. of California, USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C01G031-00
ICS C02F001-72
NCL 210710000
CC 60-2 (Waste Treatment and Disposal)
Section cross-reference(s): 51, 59

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4883601	A	19891128	US 1988-238752	19880830
PRAI	US 1988-238752		19880830		
AB	Spent aq. H2S-scrubbing solns. (from Stretford, Takahax, Hiperion, and Unisulf processes) contg. water-sol. transition metal compds., e.g., contg. V or Fe, and water-sol. org. compds., e.g., arom. sulfonates or alkanolamines, are mixed with spent catalyst particles and an aq. basic soln. The slurry is treated with O, then H2S, and filtered to give a substantially clean wastewater for discharge. The catalyst contains Mo which is solubilized then pptd. in the process. The metals can be reclaimed from the filter cake.				
ST	scrubbing hydrogen sulfide wastewater treatment				
IT	Fuel gases				

STN Columbus

Waste gases
 Natural gas
 RL: PROC (Process)
 (hydrogen sulfide removal from, by scrubbing, spent soln. treatment in)

IT Transition metals, preparation
 RL: PREP (Preparation)
 (recovery of, from spent scrubbing solns., in hydrogen sulfide removal from gases)

IT Thiocyanates
 RL: REM (Removal or disposal); PROC (Process)
 (removal of, from spent scrubbing solns., in hydrogen sulfide removal from gases)

IT Alcohols, uses and miscellaneous
 RL: REM (Removal or disposal); PROC (Process)
 (amino, removal of, from spent scrubbing solns., in hydrogen sulfide removal from gases)

IT Sulfonates
 RL: REM (Removal or disposal); PROC (Process)
 (arene, removal of, from spent scrubbing solns., in hydrogen sulfide removal from gases)

IT Wastewater treatment
 (oxidn., of scrubbing effluents, from hydrogen sulfide removal from gases)

IT 7782-77-6, Nitrous acid 11138-49-1, Sodium aluminate 1310-73-2, Sodium hydroxide, uses and miscellaneous 7697-37-2, Nitric acid, uses and miscellaneous 7722-84-1, Hydrogen peroxide, uses and miscellaneous
 RL: PROC (Process)
 (in treatment of spent scrubbing solns., in hydrogen sulfide removal from gases)

IT 7439-98-7P, Molybdenum, preparation 7440-62-2P, Vanadium, preparation
 RL: PREP (Preparation)
 (recovery of, from spent scrubbing solns., in hydrogen sulfide removal from gases)

IT 7783-06-4, Hydrogen sulfide, uses and miscellaneous
 RL: REM (Removal or disposal); PROC (Process)
 (removal of, from gases, by scrubbing, spent soln. treatment in)

IT 68-04-2, Sodium citrate 111-42-2, uses and miscellaneous 130-15-4, 1,4-Naphthalenedione 144-55-8, Sodium bicarbonate, uses and miscellaneous 497-19-8, Sodium carbonate, uses and miscellaneous 540-72-7, Sodium thiocyanate 7757-82-6, Sodium sulfate, uses and miscellaneous 11105-06-9, Sodium vanadate 53050-61-6, Sodium anthraquinone disulfonate
 RL: REM (Removal or disposal); PROC (Process)
 (removal of, from spent scrubbing solns., in hydrogen sulfide removal from gases)

L2 ANSWER 17 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1990:59557 CAPLUS

DN 112:59557

TI Slurry composition of solid fuel

IN Ishikawa, Katsuhiko; Hirafuki, Shizuo; Matsumoto, Mitsuo

PA Japan Synthetic Rubber Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C10L001-32

CC 51-17 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

STN Columbus

PI JP 01043597 A2 19890215 JP 1987-198303 19870810
 PRAI JP 1987-198303 19870810
 AB A stable aq. slurry compn. of solid fuel contains dispersants: (1) polyimd. **sulfonates** obtained from C9-12 norbornene derivs., C8-12 cyclohexene derivs., and/or C4-7 aliph. dienes; and/or (2) **sulfonate** of addn. copolymer contg. dicyclopentadiene and α,β -unsatd. dicarboxylic anhydride. The dispersant 1 is synthesized by mixing a olefinic deriv. contg. 2 double bonds (dicyclopentadiene) with a sulfonating agent (sulfite) at preferable 1:1 mol. ratio in an aq. MeOH solvent with pH 5-7 in the presence of a catalyst (nitrate) at 90-130°, followed by polymg. the resulting monomer in an acidic aq. solvent at 80-180° for >10 h. The obtained 1 has wt. av. mol. wt. 2000-100,000. The dispersant 2 is prepd. by copolymg. 1:1 mol. ratio of dicyclopentadiene and α,β -unsatd. dicarboxylic anhydride (maleic anhydride) in the presence of a free-radical initiator (benzoyl peroxide) in a solvent (Et acetate) at 40-100° for 2-20 h, followed by sulfonating the copolymer with a sulfite (NaHSO3) in an aq. NaOH solvent in the presence of a promoter (KNO3) at pH 5-7, 25-130° for 1-24 h. The resulting 2 has wt. av. mol. wt. 2000-20000 with high surface tension in aq. soln. The dispersant 2 can also be prepd. as a copolymer with addnl. styrene, acrylic and/or methacrylic acid. A selective mixt. of 1 and 2 with preferable (30-70):(30-70) ratio is mixed with water and a solid fuel having particle size 200 mesh-pass >70% to obtain a low-viscosity, high-flowability, high-concn., stable aq. slurry.
 ST dispersant solid fuel slurry prepn; **sulfonate** dispersant slurry prepn
 IT Coal
 RL: USES (Uses)
 (aq. slurries of, dispersants for)
 IT Dispersing agents
 (polyimd. **sulfonates**, for coal aq. slurries)
 IT Alkadienes
 RL: USES (Uses)
 (C4-7, polymers, sulfonated, as dispersants, for aq. coal slurries)
 IT 7757-79-1, Nitric acid potassium salt, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, for dispersant prepn., for aq. coal slurries)
 IT 29437-98-7D, Dicyclopentadiene-maleic anhydride copolymer, sulfonated
 67291-00-3D, Dicyclopentadiene-maleic anhydride styrene copolymer,
 sulfonated 109579-47-7D, sulfonated 109579-49-9D, sulfonated
 109579-59-1D, sulfonated 109579-63-7D, sulfonated
 RL: USES (Uses)
 (dispersant, for aq. coal slurries)
 IT 77-73-6D, sulfonated, polymers 78-79-5D, sulfonated, polymers
 100-40-3D, 4-Vinyl cyclohexene, sulfonated, polymers 110-83-8D,
 Cyclohexene, C8-12 derivs., sulfonated, polymers 498-66-8D,
 Bicyclo[2.2.1]hept-2-ene, C9-12 derivs. sulfonated, polymers 3048-64-4D,
 sulfonated, polymers
 RL: USES (Uses)
 (dispersants, for aq. coal slurries)
 IT 7631-90-5
 RL: USES (Uses)
 (sulfonating agent, for dispersant prepn., for aq. coal slurries)
 L2 ANSWER 18 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
 Full Text
 AN 1989:216148 CAPLUS
 DN 110:216148
 TI Preparation of basic magnesium and calcium **sulfonates**
 IN Galvankova, Maria; Klucho, Pavol
 PA Czech.

STN Columbus

SO Czech., 4 pp.
 CODEN: CZXXA9
 DT Patent
 LA Slovak
 IC ICM C07C143-90
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 255347	B1	19880315	CS 1986-4995	19860702
PRAI	CS 1986-4995		19860702		
AB	Title compds. are prepd. by carbonation of a mixt. of the resp. sulfonate and oxide in the presence of a peroxide promotor, which are used as additives for lubricating oils and cutting fluids with good dispersion and anticorrosion effects. Thus, a mixt. of Mg sulfonate 100, MgO 14, water 13, MeOH 8 and Bz2O2 4 in C6H6 13, and gasoline 150 g (b. 80-110°) was stirred 3 h at 60° with passage of 15 g CO2 at 100 mL/min. The mixt. was centrifuged and volatile components were distd. off to give a product contg. 7.66% Mg and having basicity 300 mg KOH/g.				
ST	lubricating cutting oil basic sulfonate; magnesium calcium sulfonate basic prepn				
IT	Sulfonic acids, compounds RL: PREP (Preparation) (calcium salts, overbased, carbonated, prepn. of, lubricating cutting oil additives)				
IT	Lubricating oil additives (cutting oils, dispersants-corrosion inhibitors, basic magnesium and calcium sulfonates, prepn. of)				
IT	Sulfonic acids, compounds RL: PREP (Preparation) (magnesium salts, overbased, carbonated, prepn. of, lubricating cutting oil additives)				

L2 ANSWER 19 OF 33 CAPLUS COPYRIGHT 2003 ACS ON STN

Full Text

AN 1989:79086 CAPLUS
 DN 110:79086
 TI Universal fuel for internal combustion engine
 IN Zhan, Xiaoling
 PA Peop. Rep. China
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 8 pp.
 CODEN: CNXKEV
 DT Patent
 LA Chinese
 IC ICM C10L001-04
 CC 51-7 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 87108003	A	19880525	CN 1987-108003	19871124
	CN 1004006	B	19890426		
PRAI	CN 1987-108003		19871124		
AB	The title fuel (esp. for gasoline and diesel engines) contains fusel oil 10-90, water 0.5-30, heavy hydrocarbons 1-85, peroxides 0.1-3, and sulfonates 0.05-0.1%. The fuel can also be used as kerosine substitute. A fuel compn. for gasoline engines is formulated by mixing fusel oil 50-80, water 20-30, heavy hydrocarbons 1-5, peroxides 1-3, and sulfonates 0.05-0.1%.				
ST	gasoline universal fuel oil based; diesel engine universal fuel compn; hydrocarbon heavy universal fuel compn; peroxide sulfonate universal fuel compn; kerosine substitute universal fuel compn				

STN Columbus

IT **Gasoline**
 RL: USES (Uses)
 (fusel oil-based, contg. heavy hydrocarbons-**peroxides-sulfonates**)

IT **Kerosine**
 RL: USES (Uses)
 (substitute, fusel oil-based, contg. heavy hydrocarbons-**peroxides-sulfonates**)

IT **Anthracene oil**
Ligroine
Naphthenic oils
Peroxides, uses and miscellaneous
Rosin
 RL: USES (Uses)
 (universal **fuels** contg., for internal-combustion engines)

IT **Fuels**
 (universal, contg. heavy hydrocarbons-**peroxides-sulfonates**)

IT **Sulfonic acids**, compounds
 RL: USES (Uses)
 (calcium salts, universal **fuels** contg., for internal-combustion engines)

IT **Sulfonic acids**, compounds
 RL: USES (Uses)
 (iron salts, universal **fuels** contg., for internal-combustion engines)

IT **Hydrocarbon oils**
 RL: USES (Uses)
 (solar oils, universal **fuels** contg., for internal-combustion engines)

IT 67-56-1, Methanol, uses and miscellaneous 78-83-1, Isobutanol, uses and miscellaneous
 RL: USES (Uses)
 (crude, universal **fuels** contg., for internal-combustion engines)

IT 75-91-2, tert-Butyl hydroperoxide 1073-91-2, Acetone diperoxide
 3031-75-2, Isopropyl hydroperoxide 7722-84-1, Hydrogen **peroxide**
 , uses and miscellaneous 7778-18-9, Sulfuric acid, calcium salt
 RL: USES (Uses)
 (universal **fuels** contg., for internal-combustion engines)

L2 ANSWER 20 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1980:8767 CAPLUS
 DN 92:8767
 TI **Fuel** oil additive containing dispersed metal compound particles for promotion of combustion
 IN Onishi, Fusamatsu; Otake, Naohide; Suzuki, Toshio; Anzai, Yoshihito; Izawa, Masao
 PA Sankyo Organic Chemicals Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC C10L001-18
 CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 59

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 54095605	A2	19790728	JP 1977-153344	19771220
	JP 56052951	B4	19811215		

STN Columbus

PRAI JP 1977-153344 19771220

AB The title additive is prepd. by reacting a divalent metal salt with an alkali hydroxide in the presence of a naphthenate (and/or sulfonate) and an alkane- or alkenecarboxylate followed by oxidn. with O and/or H2O2. Thus, PhMe 30, kerosine 6.5, Fe dodecylbenzenesulfonate [52641-56-2] 3.9, Fe naphthenate 3.3, Fe oleate [23335-74-2] 1.3, FeSO4·7H2O 20, NaOH 5.8, and H2O 12.2 kg were mixed (70-80°, 30 min). The mixt. was oxidized with 10.5 kg H2O2 and settled to sep. water from a layer of oil, which was heated (to remove the PhMe and the residual water) to give an additive compn. (stable for ≥3 mo) contg. 22.6% (as Fe) Fe compds. When kerosine was adjusted with the additive to contain 0.12% (as Fe) Fe compds. and combusted, the effluent contained 72 ppm NOx vs. 110 ppm when the additive was not present.

ST fuel oil combustion improving additive; iron compd fuel oil additive; dodecylbenzenesulfonate iron fuel oil additive; naphthenate iron fuel oil additive; oleate iron fuel oil additive; hydrogen peroxide oxidizing agent; nitrogen oxide redn combustion gas; kerosine combustion iron compd additive

IT Air pollution
(by nitrogen oxides, fuel oil additive for redn. of)

IT Kerosine
RL: RCT (Reactant); RACT (Reactant or reagent)
(combustion of, nitrogen oxides formation in, additives for redn. of)

IT Naphthenic acids, compounds
RL: USES (Uses)
(iron salts, fuel oil additive manuf. from compn. contg., by oxidn.)

IT Combustion gases
(nitrogen oxides in, fuel oil additive for redn. of)

IT Fuel oil additives
(combustion improvers, iron compds., manuf. of)

IT 7439-89-6D, salts with naphthenic acids 7782-63-0 23335-74-2 52641-56-2
RL: USES (Uses)
(fuel oil additive manuf. from compn. contg., by oxidn.)

IT 11104-93-1, occurrence
RL: RCT (Reactant); RACT (Reactant or reagent)
(in combustion gases, fuel oil additive for redn. of)

IT 7722-84-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. by, of iron compd.-contg. compns. in manuf. of fuel oil additives)

L2 ANSWER 21 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1978:564699 CAPLUS

DN 89:164699

TI Effect of oil additives on the properties of vulcanizates made from butadiene-nitrile rubbers

AU Ovcharov, V. I.; Rapchinskaya, S. E.; Blokh, G. A.

CS Dnepropetr. Khim.-Tekhnol. Inst., Dnepropetrovsk, USSR

SO Kauchuk i Rezina (1978), (7), 20-3
CODEN: KCRZAE; ISSN: 0022-9466

DT Journal

LA Russian

CC 38-7 (Elastomers, Including Natural Rubber)

AB Of the 10 oil additives added to mineral and transformer oils or to diesel fuel, PMS-200A, PMS-NK [67775-00-2], and AzNII-TsIATIM-1 [52439-89-1] additives were least corrosive towards SKN-18, SKN-26, and SKN-40 rubber vulcanizates. On the other hand, VNIINP-360 [12795-72-1], MNIIP-22k [52440-49-0], TsIATIM-339 [39341-59-8], and VNIINP-370 [51434-50-5] additives caused significant corrosion of nitrile rubber vulcanizates. In

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all cases, **peroxide**-vulcanized SKN-26 rubber surpassed resin-vulcanized SKN-26 rubber in corrosion resistance.

ST oil additive nitrile rubber corrosion; corrosion resistance nitrile rubber; siloxane additive rubber corrosion; transformer oil additive rubber corrosion; diesel **fuel** additive rubber corrosion; barium phenoxide alkylated rubber corrosion; zinc alkyldithiophosphate rubber corrosion; alkylphenol additive rubber corrosion; calcium **sulfonate** rubber corrosion; phosphorus contg additive rubber corrosion

IT **Fuels**, diesel
Hydrocarbon oils
RL: USES (Uses)
(additives for, nitrile rubber corrosion in presence of)

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(additives, for hydrocarbon oils or **fuels**, nitrile rubber corrosion in presence of)

IT Rubber, nitrile, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion of, in diesel **fuel** or oils, oil additives effect on)

IT Corrosive substances
(oil additives, physicochem. properties of nitrile rubber vulcanizates in presence of)

IT 108-95-2D, alkyl derivs., barium salts 9003-35-4D, alkyl sulfo derivs., calcium salts 11104-69-1 12619-86-2 12795-72-1 15834-33-0D, bis(alkylphenyl) esters, zinc salts 26566-95-0 34962-89-5D, ar,ar'-dialkyl, barium salts 39341-59-8 51434-50-5 52439-89-1 52440-49-0
RL: USES (Uses)
(additives, for hydrocarbon oils and **fuels**, nitrile rubber corrosion in presence of)

IT 824-35-1D, alkyl derivs. 67775-00-2
RL: USES (Uses)
(additives, for hydrocarbon oils or **fuels**, nitrile rubber corrosion in presence of)

IT 2678-41-3D, alkylated 19210-06-1D, dialkyl deriv.
RL: USES (Uses)
(hydrocarbon oils or **fuels** contg., nitrile rubber corrosion in presence of)

L2 ANSWER 22 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1976:138220 CAPLUS

DN 84:138220

TI **Fuel**-pure water or hydrogen **peroxide** mixture, non-gel, containing sulfonated, tensioactive products, and possibly metallic or metalloid charges

IN Durand, Paul

PA Fr.

SO Belg., 5 pp.

CODEN: BEXXAL

DT Patent

LA French

IC C10L

CC 51-6 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 826524	A1	19750630	BE 1975-154202	19750311
PRAI	BE 1975-154202		19750311		
AB	A gasoline formulation contg. a sulfonated animal or vegetable oil surfactant and H2O [7732-18-5] or H2O2 [7722-84-1] gave improved engine				

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performance and reduced pollution. The engine performance of 2 formulations contg. a super grade gasoline 425, sulfonated oil 37.5, and H2O (or 30 vol.% H2O2 contg. 1.5 cm3 Et2O [60-29-7]) 37.5 cm3 was compared with that of 500 cm3 of the super grade gasoline and the engine rates were 1885, 2025, and 1610 rpm in presence of H2O, H2O2, and no additive, resp., and the resp. running times were 115, 117, and 110 sec.

ST gasoline formulation improved performance; hydrogen peroxide gasoline additive; sulfonate surfactant gasoline additive; water gasoline additive

IT Air pollution
(control of, by exhaust gases, gasoline additives for)

IT Sulfonates
RL: USES (Uses)
(gasoline formulations contg.)

IT Gasoline additives
(hydrogen peroxide and water, for improved performance and reduced pollution)

IT Oils
RL: USES (Uses)
(sulfonated, gasoline formulations contg.)

IT 7722-84-1, uses and miscellaneous 7732-18-5
RL: USES (Uses)
(gasoline additives, for improved performance and reduced pollution)

IT 60-29-7, uses and miscellaneous
RL: USES (Uses)
(gasoline formulations contg. hydrogen peroxide and)

L2 ANSWER 23 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1972:542117 CAPLUS
DN 77:142117
TI Detergent additives for lubricating oils and liquid fuels
IN Marsh, John Frederick
PA Esso Research and Engineering Co.
SO Brit., 3 pp. Addn. to Brit. 1,198,405 (See Ger. 1,946,072, CA 72:123688z).
CODEN: BRXXAA

DT Patent
LA English
IC C07C; C10M
CC 51-7 (Petroleum, Petroleum Derivatives, and Related Products)
Section cross-reference(s): 46

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1282939		19720726	GB 1969-45139	19690912
AB	Addn. to Brit. 1,198,405 (See Ger. 1,946,072, CA 72: 123688z). A detergent additive is prepd. in which a C1-2 carboxylic acid and oil sol. sulfonic acid or sulfonate surfactant are heated with a metal oxide or carbonate. Thus, HCOOH is added to hot Ca petroleum sulfonate contg. 45 wt. % 450 mol. wt. active ingredient, dissolved in mineral oil. CaO is added and the volatiles driven off at 220° to yield a detergent additive contg. 29 wt. % sulfated ash. This additive (0.05-0.5%) is blended into petroleum, animal or vegetable oils, to impart detergency.				
ST	lubricating oil detergent; fuel oil detergent; petroleum fraction detergent; oil detergent; formic acid oil detergent; calcium sulfonate oil detergent; sulfonate calcium oil detergent				
IT	Sulfonic acids, compounds RL: USES (Uses) (calcium salts, reaction products with formic acid and calcium oxide, lubricating oil detergents)				

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IT Lubricating oil additives
(detergents, calcium **sulfonate** reaction products with formic acid and calcium oxide as)

IT Calcium **peroxide**, reaction products with formic acid and calcium **sulfonates**
RL: USES (Uses)
(lubricating oil detergent)

IT Cellulose, formate, reaction products with calcium oxide and calcium **sulfonates**
RL: USES (Uses)
(lubricating oil detergents)

L2 ANSWER 24 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text

AN 1971:101378 CAPLUS
DN 74:101378
TI Role of **fuel** sulfur in deposit formation and lubricant degradation in diesel operation
AU Kreuz, Kenneth L.; Love, R. F.
CS Texaco Res. Cent., Beacon, NY, USA
SO Preprints - American Chemical Society, Division of Petroleum Chemistry (1969), 14(4), A47-A57
CODEN: ACPCAT; ISSN: 0569-3799
DT Journal
LA English
CC 51 (Petroleum, Petroleum Derivatives, and Related Products)
AB A large no. of engine runs indicated that there was a relation between dispersancy degradation and piston deposits. With **sulfonates**, phenolates, and dithiophosphates as additives, it was shown that dispersancy degradation effects could generally be predicted by a bench test in which the oil was treated with SO₂ and air at 350°F. The central chem. changes in both bench and engine tests are considered to be the reaction of SO₂ with **peroxides** to give H₂SO₄ derivs. Model studies of this system lead to a provisional reaction mechanism. Evidence is also presented regarding the functioning mechanisms of common additive types.

ST lubricant degradn diesel engine; sulfur dioxide **peroxides** reaction; **sulfonate** lubricant additive; dithiophosphate lubricant additive; diesel deposits sulfur **fuel**

IT **Fuels**, diesel
(deposit formation from, sulfur effect on)

IT 7704-34-9, uses and miscellaneous
RL: USES (Uses)
(engine deposit formation from diesel **fuels** in relation to)

L2 ANSWER 25 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text

AN 1970:405241 CAPLUS
DN 73:5241
TI Use of olefins for preparing alkyl **sulfonates**
AU Tyutyunnikov, B. N.; Karetnikova, V. S.; Bukhshtab, Z. I.; Yushchenko, E. P.; Gasyuk, L. V.
CS Khar'kov. Politekh. Inst. im. Lenina, Kharkov, USSR
SO Neftepererabotka i Neftekhimiya (Moscow, Russian Federation) (1970), (2), 34-6
CODEN: NNNSAF; ISSN: 0233-5727
DT Journal
LA Russian
CC 46 (Surface Active Agents and Detergents)
AB NH₄HSO₃ was added to higher α -olefins in the presence of oxidizers to produce biodegradable **sulfonate** detergents. Air bubbling and **peroxides** were used in the presence of salts of metals with variable valence. The reactants were heated in cylindrical reactors to 80°

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and air bubbled through for 4 hr, then the reaction mixt. was transferred to the settler and cooled to 20-5°. After 3-4 hr, a mineral salt layer was sepd. to bottom. The upper hydrocarbon layer was recycled. The middle layer, contg. an alc.-aq. soln. of **sulfonates**, was dild. 1:1 with H2O and the remaining hydrocarbons were extd. with gasoline. The **sulfonates** were concd. by distg. off alcs. and H2O to obtain an NH4 alkylsulfonate conc. contg. 45-53% active substance. Data on the process are presented.

ST olefins alkyl **sulfonates**; alkyl **sulfonates** olefins; **sulfonates**
olefins alkyl; biodegradable **sulfonate** detergents
IT Detergents, preparation
(sulfonated, from olefins)

L2 ANSWER 26 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1970:134314 CAPLUS
DN 72:134314
TI Method for desealing integral fuel tanks
IN Frischknecht, Hans
PA Chemetron Corp.
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
IC B08B
NCL 134022000
CC 42 (Coatings, Inks, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3501348	A	19700317	US 1966-569061	19660801
PRAI	US 1966-569061		19660801		
AB	H2O is added to the usual solvent mixt. used to remove integral fuel-tank linings, which is necessary when the synthetic rubber sealing compns. become dry and cracked. Thus, a mixt. of 81% by wt. CHCl2, 6% aromatic thiols (85% xylenethiol and 15% aliphatic petroleum solvent), 5% org. Na sulfonate (mol. wt. 325-425, 55-60% active-remainder petroleum oil), and 8% iso-PrOH was dild. with 50% H2O and sprayed on coated panels continuously. It stripped both Pb peroxide-cured thiokol and dichromate-cured thiokol coatings within 1 hr. This was equiv. to similar tests using the standard formulation above with out H2O. Cost lowering without loss in efficiency is claimed with up to 60% extensi on (diln.) with H2O.				
ST	fuel tank linings desealing; linings fuel tank desealing; rubber linings removal tanks; thiokol linings removal tanks				
IT	Coating removers (aromatic thiols-dichloromethane, for thiokol rubber coatings)				
IT	Rubber, Thiokol (coatings, removers for, aromatic thiols-dichloromethane as)				

L2 ANSWER 27 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1969:33250 CAPLUS
DN 70:33250
TI Metal-etching solutions containing sulfuric acid and hydrogen peroxide instead of nitric acid
IN Jenks, Richard H.
PA Revere Copper and Brass Inc.
SO U.S., 2 pp.
CODEN: USXXAM
DT Patent
LA English

STN Columbus

NCL 252079400
 CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3411032	A	19681112	US 1965-455415	19650513
	SE 325053	B	19700622	SE 1966-6463	19660511
	NL 6606518	A	19661114	NL 1966-6518	19660512
	JP 49007371	B4	19740220	JP 1966-30484	19660512
	BE 681030	A	19661017	BE 1966-681030	19660513

PRAI US 1965-455415 19650513

AB The soln. 5-12% H₂SO₄ by vol. and 5-6% H₂O₂ by vol., instead of HNO₃, and with the same org. corrosion inhibitors and other additives, can be used in many etchant formulas for use on Zn, Cu, Mg, and other metal plates that are etched for photoengraving, as well as in the production of printed circuits and in chem. milling. U. S. 3,023,138 and many earlier patents give formulas in which this change can be made. A list of suitable inhibitors of various types is given, such as oleates, esters of aliphatic or sulfosuccinic acid, aliphatic alcs., petroleum sulfonates, sulfated oils, and alkylaryl or halogenated diaryloxide sulfonates. The inhibitors can be present as 0.1-1.0% of the soln. by wt., and 0.1-10% org. liq. such as gasoline, kerosine, and light oils by vol. can also be emulsified in the solns. A good aq. soln. for Zn plates was pure H₂SO₄ 6, 50% H₂O₂ soln. 10, sulfonated castor oil 0.27, petroleum sulfonate of 200-600 mol. wt. 0.047, and com. oleic acid 0.013% by vol. Satisfactory halftones were reproduced when 78 l. of this soln. was used for 20-min. etching of a Zn plate in a photoengraving etching machine followed by washing and drying.

ST etchant photoengraving; photoengraving etchant; sulfuric acid etchant; halftones photoengraving; plates etching

IT Zinc alloys, base
(etching of, hydrogen peroxide-sulfuric acid solns. for)

IT Graphic arts
(etching solns. for, hydrogen peroxide-sulfuric acid as)

IT Printing
(plates, hydrogen peroxide-sulfuric acid etching solns. for)

IT 7664-93-9, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(etching by hydrogen peroxide and, of metals)

IT 7722-84-1, uses and miscellaneous
RL: USES (Uses)
(etching solns. from sulfuric acid and, for metals)

L2 ANSWER 28 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1967:78005 CAPLUS
 DN 66:78005
 TI Additives for diesel fuels
 AU Losikov, B. V.; Traktovenko, I. A.
 SO Khimiia i Tekhnologiia Toplii i Masel (1967), 12(1), 63-5
 CODEN: KTTMA2
 DT Journal
 LA Russian
 CC 51 (Petroleum, Petroleum Derivatives, and Related Products)
 AB Isopropyl nitrate is the best additive for raising cetane no.; peroxides are also effective. They are usually employed only for winter or arctic use at 0.5 to 2%. The best corrosion inhibitor is a mixt. of Ca (0.005 to 0.1%) and NH₄ (0.01 to 0.05%) petroleum sulfonates with 0.01% of a nitrated oil. Addn. of 0.2% VN-13, a polar polymer, reduced C formation and wear of piston rings with fuels contg. S. None of the additives inhibited combustion or changed the compn. of the exhaust, except to make it less smoky.

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ST DIESEL FUEL ADDITIVES; FUEL ADDITIVES DIESEL; ADDITIVES DIESEL FUEL
IT Fuels, diesel
(additive use in)

L2 ANSWER 29 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1962:430022 CAPLUS

DN 57:30022

OREF 57:6050e-1

TI Preparation of surface-active substances by peroxidation of alkanes

AU Klang, M.; Brincoveanu, Angels

SO Revistade Chimie (Bucharest, Romania) (1959), 10, 214-18

CODEN: RCBUAU; ISSN: 0034-7752

DT Journal

LA Unavailable

CC 42 (Surface-Active Agents and Detergents)

AB The methods for prepn. of surfactants by oxidizing processes were reviewed and paraffinic kerosine fractions were peroxidized to obtain directly the sulfonated fatty acids. The kerosine fraction (b.p. 200-80°) was treated first with H2SO4 + oleum in order to reduce the high aromatic content (from 30% to below 10%). The S (0.1-0.2%) could not be eliminated on a lab. scale. A glass installation was used as oxidizing reactor, connected to a reflux and ordinary condenser, and to a porous plate-tipped tube for dispersion of the air. The reaction temp. was optimal at 160° (reaction was completed in 1 hr.) if an initiator was used; at 0.1% concn., cumene hydroperoxide, Bz2O2, or a small proportion of 3-5% of recycled substance from a preceding oxidn. gave similar results. The catalysts studied (at a concn. of 0.02% metal ion) were Na stearate, Na naphthenate, KMnO4 (orientates the oxidn. in the direction of acid formation), Ca stearate, and Ca naphthenate, the results being similar for all, but Na stearate was optimal and most convenient to use. The duration of the oxidn. was detd. by reaching the max. conversion point, at which the reaction must be stopped at the high temp. used, to prevent peroxide destruction. The conversion was detd. iodometrically. The oxidn. product was treated with 20% aq. NaHSO3 or Na2S2O5 at 30-5°, or with gaseous SO2 bubbled through aq. NaOH. Best results were obtained with NaHSO3 where, irrespective of the mol. proportion of the bisulfite, a mixt. of alkyl sulfates and alkane-sulfonates was obtained, in which the sulfated alcs. predominated (8090%), themselves a synergetic mixt. of primary and secondary alcs. By addn. of an electrolyte, 3 layers were obtained-top, nonreacted substances; intermediate, aq. Na alkyl sulfates; and bottom, aq. soln. of salts and Na2SO3 excess. The intermediate layer was sepd., brought to pH 7.5-8, and washed with benzene or gasoline from kerosine residues, leaving a soln. of the final product of 25% active substance content and excellent surfactant properties. 10 references.

IT Fatty acids

(from paraffin oxidn., prepn. and sulfonation to surfactants)

IT Catalysts and Catalysis

(in oxidn. of paraffins, in sulfonated surfactant prepn., Na naphthenate, Na stearate, etc., as)

IT Kerosine

(oxidn. (per-) of paraffinic fraction of, and sulfonation of acids to surfactants)

IT Paraffins

(oxidn. of, per-, and sulfonation of fatty acids produced to surfactants)

IT Oxidation

(per-, of paraffinic kerosine fraction in sulfonated surfactant prepn.)

IT Surface-active substances

(sulfated or sulfonated, by peroxidn. of paraffinic kerosine and sulfonation of fatty acids)

IT 822-16-2, Stearic acid, sodium salt

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(catalysts, in peroxidn. of paraffins)

L2 ANSWER 30 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1956:66335 CAPLUS

DN 50:66335

OREF 50:12359h-i,12360a-i,12361a-h

TI American Society for Testing Materials, Standards, 1955, V. **Fuels**, petroleum, aromatic hydrocarbons, engine antifreezes (1955), 1460 pp.

SO

DT

LA

CC

AB

Book
Unavailable
13 (Chemical Industry and Miscellaneous Industrial Products)
cf. C.A. 47, 8935g. Standards or tentative standards, adopted or revised in 1955, are given for: test for flash point by Tag Closed Tester; test for distn. of **gasoline**, naphtha, kerosine, and similar petroleum products; test for m.p. of paraffin wax; test for viscosity by Saybolt Viscosimeter; test for S in petroleum products by lamp-gravimetric method; test for pptn. no. of lubricating oils; test for flash and fire points by Cleveland Closed Tester; test for flash point by Pensky-Martens Closed Tester; tests for sapon. no. of petroleum products; test for water in petroleum products and other bituminous materials; test for water and sediment; test for cloud and pour points; testing elec. insulating oils; definition of terms relating to coal and coke; test for m.p. of petrolatum and microcryst. wax; analysis of lubricating grease; test for S in petroleum products and lubricants; test for Cu corrosion by petroleum products; drop shatter tests for coke and coal; test for color of lubricating oil and petrolatum; test for Saybolt color of refined petroleum products; test for steam emulsion of lubricating oils; test for distn. of gas oil and similar distillate **fuel** oils; gas and coking coals; test for volume of cell space of lump coke; test for burning quality of kerosine; test for C residue of petroleum products; sampling and fineness test of powd. coal; tests for distn. of natural **gasoline**, crude petroleum, plant spray oils, and industrial aromatic hydrocarbons; test for cone penetration of lubricating grease; test for burning quality of long-time burning oil for railway use and of mineral seal oil; petroleum spirits; test for heat of combustion of liquids; sampling petroleum and petroleum products; lab. sampling and analysis of coal and coke; test for autogenous ignition temps. of petroleum products; test for API gravity of petroleum and its products; definitions of terms relating to petroleum; test for cu. ft. wt. of crushed bituminous coal and for coke; tests for sieve analysis of coke and of crushed bituminous coal; tumbler test for coke; test for size of anthracite; test for dilution of crankcase oils; test for vapor pressure of petroleum products; standard viscosity-temp. charts for liquid petroleum products; sampling coke for analysis; tests for knock characteristics of motor **fuels** and of aviation **fuels**; test for existent gum in **fuels**; classifications of coals by rank and grade; **fuel** oils; definitions of terms; gross calorific value and net calorific value of solid and liquid **fuels**; test for grindability of coal; screen analysis of coal; designating size of coal from its screen analysis; **gasoline**; tumbler test for coal; test for kinematic viscosity; conversion of kinematic viscosity to Saybolt Universal viscosity; test for sediment in **fuel** oil; test for ash content of petroleum oil; test for unsulfonated residue of petroleum plant spray oils; Stoddard solvent; sampling coals classed according to ash content; definitions for com. varieties of bituminous and subbituminous coals; test for C residue of petroleum products; test for oxidation stability of **gasoline**; test for tetraethyllead in **gasoline**; test for index of dustiness of coal and coke; tests for carbonizable substances in white mineral oil and paraffin wax; test for dropping point of lubricating grease; calcg. viscosity index; test for aniline point and mixed aniline point of petroleum products and hydrocarbon solvents; test for ignition quality of Diesel

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fuels; tests for neutralization value; test for rust-preventing characteristics of steam-turbine oil in presence of water; conversion of kinematic viscosity to Saybolt furol viscosity; test for free-swelling index of coal; test for oil content of petroleum waxes; test for Cl in lubricating oils and greases; test for sulfated residue, Pb, Fe, and Cu in new and used lubricating oils; chem. analysis for metals in lubricating oils; test for gas content and inorg. chlorides and sulfates of insulating oils; nitration grades and industrial grades of benzene, toluene, and xylene; industrial 90 benzene; refined solvent naphtha; crude-light and crude-heavy solvent naphthas; 5-degree and 10-degree xylenes; tests for acidity and acid wash color of benzene, toluene, xylenes, solvent naphthas, and similar industrial aromatic hydrocarbons; test for Cu corrosion of industrial aromatic hydrocarbons; test for paraffins in industrial aromatic hydrocarbons; test for solidification point of benzene; test for color, and H₂S and SO₂ content (qual.) of industrial aromatic hydrocarbons; analysis of oil-sol. Na petroleum sulfonates; test for oxidation stability of aviation gasoline; test for sulfated residue from new lubricating oils; calcn. for olefins and aromatics in gasoline; test for dielec. strength of insulating oil of petroleum origin; test for sp. gr. of industrial aromatic hydrocarbons; test for foaming characteristics of crankcase oils; test for normal pentane and benzene insolubles in used lubricating oils; test for calorific value of gaseous fuels; aviation gasolines; sampling elec. insulating oils; test for power factor and dielectric const. on elec. insulating oils of petroleum origin; test for thiophene in benzene; test for aromatic hydrocarbons in olefin-free gasolines; test for penetration of petrolatum; test for congealing point of pharmaceutical petrolatums; test for d. and sp. gr. of hydrocarbon liquids; test for oxidation stability of lubricating greases; test for oxidation characteristics of inhibited steam-turbine oils; heavy petroleum spirits; test for interfacial tension of oil against water; test for evapn. loss of lubricating greases and oils; tests for butadiene content, C₂H₂, butadiene dimer, and nonvolatile residue of polymerization-grade butadiene; test for O in butadiene vapors; test for peroxides in butadiene; test for sepn. of residue from butadiene; test for Na in lubricating oils and lubricating-oil additives; purchase of uninhibited mineral oil for use in transformers in oil circuit breakers; test for sp. gr. of gaseous fuels; measurement of gaseous fuel samples; test for total S in fuel gases; test for distn. range of lacquer solvents and diluents; gaging petroleum and petroleum products; measuring temp. of petroleum and petroleum products; vol. calcn. and corrections in measurement of petroleum and petroleum products; b.p. range of polymerization-grade butadiene; test for carbonyl content of butadiene; test for P in lubricating oils, lubricating-oil additives, and their concentrates; test for apparent viscosity of lubricating greases; test for acidity of residue from distn. of gasoline and of petroleum solvents; test for water tolerance of aircraft fuels; test for analysis of 60 octane number isooctane-normal heptane ASTM knock test reference fuel blends; test for 1,3-butadiene in C₄ hydrocarbon mixts.; test for ash content of concd. engine antifreezes; test for b.p. of engine antifreezes; test for reserve alkyl., sp. gr., and water content of concd. engine antifreezes; hydrometer-thermometer field tester for engine antifreezes; test for heptane no., kauri-butanol value, and nitrocellulose dilg. power of hydrocarbon solvents; analysis of natural gases by volumetric-chem. method; analysis of natural gases and related types of gaseous mixts.; test for water-vapor content of gaseous fuels; sampling natural gas; test for total inhibitor content; tests for Br no. of petroleum distillates; test for reduced pressure distn. of petroleum products; testing hydrocarbon waxes used for elec. insulation; sampling and prepg. aq. solns. of engine antifreeze for testing purposes; test for f.p. of aq. engine antifreeze soln.; reagent water; definitions and specifications for farm tractor fuels; analysis of Ca and Ba sulfonates; test for d. and sp. gr. of liquids; measurement of refractive index and refractive

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dispersion of hydrocarbon liquids; test for mercaptan S in jet fuels; calibrating liquid containers; sampling manufd. gas and liquefied petroleum gases; ASTM-IP petroleum measurement tables; test for effect of grease on Cu; test for Pb in new and used greases; test for leakage tendencies of automotive wheel bearing greases; test for water washout characteristics of lubricating greases; test for S in petroleum products and liquefied petroleum gases; test for unsatd. light hydrocarbons; polarographic detn. of tetraethyllead in gasoline; test for corrosive S in elec. insulating oils; test for pH of concd. engine antifreezes; test for sp. gr. of petroleum and its products; analysis of carbureted water gas; test for flash point of volatile flammable materials; test for viscosity reduction power of hydrocarbon solvents; tests for sludge formation in mineral transformer oil; test for water in insulating oils; test for Cl in lubricating oil; test for Na in residual fuel oil; test for hydrocarbon types in liquid petroleum products; test for tensile strength of paraffin wax; test for needle penetration of petroleum waxes; test for smoke point of and mercaptan S in jet fuels; test for water in lacquer solvents and diluents; test for lubricating qualities of graphites; test for trace concns. of tetraethyllead in primary reference fuels; glassware corrosion test for engine antifreezes; ASTM thermometers; sieves for testing purposes; definition of the term: screen; test for softening point by ring and ball app.; recommended practice for designating significant places in specified limiting values; definitions with procedures relating to conditioning and weathering; detn. of pH of aq. solns. with glass electrode; testing and standardization of etched-stem liquid-in-glass thermometers; ASTM hydrometers; test for Saybolt furol viscosity of asphaltic materials at high temps.; and probability sampling of materials. Tentative revisions submitted in 1955 are given for: lab. sampling and analysis of coal and coke.

IT Nomenclature
 (American Society for Testing Materials definitions)

IT Natural gas
 (analysis of)

IT Lubricants
 (analysis of, and standards for)

IT Sulfonic acids
 (barium and Ca salts of, analysis of)

IT Paraffin oils
 (carbonizable-substance detn. in)

IT Petrolatum
 (congealing point of, test for)

IT Calorific value
 (definition for)

IT Coal
 Coke
 (definitions for)

IT Neutralization number
 (detn. of)

IT Peroxides
 (detn. of, in butadiene vapors)

IT Olefins
 (detn. of, in gasoline)

IT Chlorides
 Sulfates
 (detn. of, in insulating oils)

IT Thiols
 (detn. of, in jet fuels)

IT Hydrogen-ion concentration
 (detn. of, of antifreezes)

IT Aniline point
 (detn. of, of hydrocarbons and petroleum products)

IT Precipitation number

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(detrn. of, of lubricating oils)
 IT Bromine number
 (detrn. of, of petroleum distillates)
 IT Saponification number
 (detrn. of, of petroleum products)
 IT Hydrocarbons
 (distn. of aromatic, standards for)
 IT Gasoline
 Kerosine
 Naphtha
 (distn. of, standards for)
 IT Transformer oils
 (for circuit breakers, uninhibited mineral oil as)
 IT Fuels
 (ignition quality of, test for)
 IT Dust
 (in coal and coke, test for)
 IT Cloud point
 Fire points
 Flash point
 Pour point
 Viscosity
 (measurement of)
 IT Dispersion (of rays or waves)
 (measurement of refractive, by hydrocarbons)
 IT Dielectric constants
 (measurement of, of elec. insulators)
 IT Evaporation
 (measurement of, of greases and oils)
 IT Refractive index
 (measurement of, of hydrocarbons)
 IT Dielectric strength
 Electric power factor
 (measurement of, of insulating oils)
 IT Smoking point
 (measurement of, of jet fuels)
 IT Interfacial tension
 (measurement of, of oil against H2O)
 IT Melting points
 Tensile strength
 (measurement of, of paraffin waxes)
 IT Density
 (measurement of, of petroleum and its products)
 IT Vapor pressure
 (measurement of, of petroleum products)
 IT Paraffin wax and other hydrocarbon waxes
 (melting point of, detrn. of)
 IT Electric circuit breakers
 (mineral oil (uninhibited) for)
 IT Grinding
 (of coal, testing for)
 IT Heat of combustion
 (of liquids, standards for)
 IT Sprays
 (oil, distn. standards for plants)
 IT Insulators (electric)
 (oils, sampling and testing of)
 IT Sulfonic acids
 (petroleum, Na salts, analysis of oil-sol.)
 IT Oxidation
 (stability of petroleum products, test for)
 IT Antifreeze substances

STN Columbus

Petrolatum
(standards and tests for)

IT Petroleum
(standards and tests for, and its products)

IT Fuels
Hydrocarbons
Oils
Petroleum spirits
Sampling
Solvent naphtha
Stoddard solvent
(standards for)

IT Ignition
(temps., of petroleum products, standards for)

IT Corrosion
(testing corrodibility, of Cu by petroleum products)

IT Corrosion
(testing corrosiveness, of steam-turbine oils)

IT Bituminous materials
(water detn. in)

IT 106-99-0, 1,3-Butadiene
(analysis of)

IT 7782-44-7, Oxygen
(analysis, detn. in butadiene)

IT 7440-23-5, Sodium
(analysis, detn. in lubricating oil and additives)

IT 7723-14-0, Phosphorous
(analysis, detn. in lubricating oils)

IT 7704-34-9, Sulfur 7782-50-5, Chlorine
(analysis, detn. in petroleum products)

IT 74-86-2, Acetylene
(detn. of, in 1,3-butadiene)

IT 110-02-1, Thiophene
(detn. of, in benzene)

IT 78-00-2, Lead, tetraethyl-
(detn. of, in gasoline)

IT 7732-18-5, Water
(detn. of, in petroleum products, etc.)

IT 7440-44-0, Carbon
(in petroleum products, test for residual)

IT 71-43-2, Benzene 108-88-3, Toluene 1330-20-7, Xylene
(nitrated, standards for)

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Full Text

AN 1953:52693 CAPLUS

DN 47:52693

OREF 47:8935g-i,8936a-i,8937a-e

TI American Society for Testing Materials, Standards, 1952. V. Fuels,
petroleum, aromatic hydrocarbons, engine antifreezes
(1952), 1253 pp.

SO Book

LA Unavailable

CC 13 (Chemical Industry and Miscellaneous Industrial Products)

AB Standards or tentative standards, adopted or revised in 1952 are given
for: distn. of crude petroleum; gravity of petroleum and its products;
ASTM-IP petroleum measurement tables; reduced pressure distn. of petroleum
products; test for S in petroleum products and lubricants; test for water
in petroleum products and other bituminous materials; test for water and
sediment; definitions of terms relating to petroleum; test for C2H2 in
polymerization-grade butadiene; tests for b.p. range and butadiene content
of polymerization-grade butadiene; carbonyl content of butadiene; test for

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1,3-butadiene in C4 hydrocarbon mixts.; measurement of f.p.s. for evaluation of purity; tests for O in butadiene vapors and for **peroxides** in butadiene; detn. of purity from f.p.s.; sampling petroleum and petroleum products; tests for sepn. of residue from butadiene and for butadiene dimer and nonvolatile residue of polymerization-grade butadiene; test for total inhibitor content (p-tert-butylcatechol) of butadiene; distn. test of **gasoline**, naphtha, kerosine, and similar petroleum products; test for viscosity and for flash and fire points; tests for flash point by Pensky-Martens closed tester and by Tag closed tester; method of calcs. viscosity index; conversion of kinematic viscosity to Saybolt Furol viscosity; vacuum distn. of liquid and semi-solid asphaltic materials to obtain a residue of specified penetration; test for softening point; asphalt-base emulsions for use as protective coatings for built-up roofs; **gasoline** and aviation **gasoline**; acidity of residue from distn. of **gasoline** and of petroleum solvents; analysis of 60 octane no. isooctane-normal heptane ASTM knock test reference **fuel** blends; test for aromatic hydrocarbons in olefin-free **gasolines**; test for autogenous ignition temps. of petroleum products; tests for C6H6 and toluene, Br no. of petroleum distillates, color of refined petroleum oil, and color of U.S. Army motor **fuel**; measurement of d. and sp. gr. of liquids; distn. of natural **gasoline**; gaging petroleum and petroleum products; test for existent gum in **fuels** and in **gasoline**; test for H in petroleum fractions; test for knock characteristics of aviation and motor **fuels**; test for mercaptan S in jet **fuels**; test for olefins and aromatics in petroleum distillates; test for oxidation stability of **gasoline** and aviation **gasoline**; measurement of refractive index and refractive dispersion of hydrocarbon liquids; test for free and corrosive S in petroleum products; test for S in petroleum products; test for tetraethyllead in **gasoline**; tests for heat of combustion of liquids, and of vapor pressure of petroleum products; vol. calcs. and corrections in measurement of petroleum and petroleum products; test for water tolerance of aviation **fuels**; petroleum spirits; Stoddard solvent; reagent water; test for d. of hydrocarbon liquids; test for distn. range of lacquer solvents and diluents; tests for heptane no.; kauri-butanol value and nitrocellulose dilg. power of hydrocarbon solvents; test for olefinic plus aromatic hydrocarbons in petroleum distillates; classification of Diesel **fuel** oils; farm tractor **fuels** and **fuel** oils; test for aniline point and mixed aniline point of petroleum products and hydrocarbon solvents; test for ash content of petroleum oils; test for burning qualities of kerosine, mineral seal oil, and of long-time burning oil for railway use; test for C residue of petroleum products; test for cloud and pour points; distn. test of gas oil and similar distillate **fuel** oils; test for ignition value of Diesel **fuels**; test for neutralization value (acid and base nos.); test for sediment in **fuel** oil; conversion of kinematic viscosity to Saybolt universal viscosity; test for kinematic viscosity; test for Cl in lubricating oils and greases; test for color of lubricating oil and petrolatum; test for diln. of crankcase oils; tests for steam emulsion of lubricating oils and evapn. loss of lubricating greases and oils; test for foaming characteristics of crankcase oils; chem. analysis for metals in lubricating oils; test for normal pentane and C6H6 insolubles in used lubricating oils; test for P in lubricating oils, lubricating-oil additives, and their concentrates; sampling coals classed according to ash content; lab. sampling and analysis of coal and coke; sampling and fineness test of powd. coal; sampling and analysis of coal for volatile-matter detn.; test for grindability and screen analysis of coal; drop shatter and tumbler tests for coal; designating the size of coal from screen analysis; test for size of anthracite; tests for sieve analysis and cu. ft. wt. of crushed bituminous coal; index of dustiness of coal and coke; test for free-swelling index of coal; classification of coals by rank and grade; gas and coking coals; sieves for testing purposes; definitions of terms relating to coal and coke, gross and net calorific values of solid and liquid **fuels**, and of com. varieties of

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- bituminous and sub-bituminous coals; sampling coke for analysis; test for vol. of cell space of lump coke; drop shatter and tumbler tests of coke; tests for sieve analysis and cu. ft. wt. of coke; test for sp. gr. and calorific value of gaseous fuels; analysis of natural gases and related types of gaseous mixts.; test for water-vapor content of gaseous fuels; sampling manufd. gas; industrial 90, nitration and industrial-grades C6H6; refined, crude light, and crude heavy solvent naphthas; nitration and industrial-grades toluene; 5%, 10%, nitration, and industrial-grades xylene; test for acidity and acid wash color of C6H6, toluene, xylenes, solvent naphthas, and similar industrial aromatic hydrocarbons; test for Cu corrosion, distn., and paraffins of industrial aromatic hydrocarbons; test for solidifying point of benzenes; tests for sp. gr., color, H2S, and SO2 content of industrial hydrocarbons; test for thiophene in C6H6; hydrometer-thermometer field test and b.p. of engine antifreezes; tests for ash content, reserve alky., sp. gr., and water of concd. antifreezes; test for pptn. no. of lubricating oils; test for sapon. no. of petroleum products; test for Na in lubricating oil and lubricating-oil additives; test for sulfated residue from new lubricating oils; test for sulfated residue, Pb, Fe, and Cu in new and used lubricating oils; viscosity-temp. charts for liquid petroleum products; test for interfacial tension of oil against water; test for oxidation characteristics of inhibited steam-turbine oils; test for rust-preventing characteristics of steam-turbine oil in the presence of water; tests for elec. insulating oils, askarels, inorg. chlorides and sulfates in insulating oils, dielec. strength of insulating oils of petroleum origin, and gas content of insulating oils; test for power factor and dielec. const. of elec. insulating oils of petroleum origin; sampling elec. insulating oils; test for sludge formation in mineral transformer oil; detection of free S in elec. insulating oils; purchase of uninhibited mineral oil for use in transformers and oil circuit breakers; analysis of Ca, Ba, and oil-sol. Na petroleum sulfonates; distn. test of plant spray oils; test for unsulfonated residue of petroleum plant spray oils; analysis of grease; apparent viscosity, cone penetration, and dropping point of lubricating grease; test for oxidation stability of lubricating greases; test for carbonizable substances in paraffin wax and white mineral oil; test for congealing point of pharmaceutical petrolatums; testing hydrocarbon waxes used for elec. insulation; m.ps. of paraffin wax, petrolatum, and microcryst. wax; test for oil content of paraffin wax; test for penetration of petrolatum; measurement of gaseous fuel samples; measuring temp. of petroleum and petroleum products; sampling natural gas; sampling and prepg. aq. solns. of engine antifreeze for testing purposes; f.p. of aq. engine antifreeze solns.; detn. of pH of aq. solns. with glass electrode; designating significant places in specified limiting values; definitions of terms relating to sp. gr., screen, rheological properties of matter, and of conditioning and weathering; ASTM thermometers; and method of testing and standardization of etched-stem liquid-in-glass thermometers. Tentative revisions submitted in 1952 are given for: test for existent gum in gasoline.
- IT Particles
 (-size measurement, of coal)
- IT Viscosity
 (-temp. charts for petroleum products)
- IT Hydrocarbons
 (1,3-butadiene detn. in C4)
- IT Solvents
 (aniline point and mixed aniline points of, detn. of)
- IT Roofing
 (asphalt coatings for, standards for)
- IT Railways
 (burning oil for, testing of)
- IT Viscosity index
 (calcn. of, standards for)

STN Columbus

IT	Paraffin oils (carbonizable-substance detn. in)
IT	Lubricants (chlorine detn. in)
IT	Petrolatum (color of, detn. of)
IT	Kerosine (combustion qualities of, detn. of)
IT	Petrolatum (congealing point of, test for)
IT	Mathematics (designating significant places in specified limiting values)
IT	Gums (detn. in gasoline)
IT	Gums (detn. in gasoline and fuels)
IT	Hydrocarbons (detn. of aromatic, in olefin-free gasolines)
IT	Alkalinity (detn. of reserve, of antifreeze substances)
IT	Carbonization (detn. of substances capable of, in paraffin oil and wax)
IT	Aniline point (detn. of, and mixed aniline point of hydrocarbon solvents and petroleum products)
IT	Ash(es) (detn. of, in antifreeze substances)
IT	Carbonyl group Peroxides (detn. of, in butadiene)
IT	Sediments (detn. of, in fuel oil)
IT	Paraffins (alkanes) (detn. of, in industrial aromatic hydrocarbons)
IT	Sulfates (detn. of, in insulating and lubricating oils)
IT	Chlorides Gases (detn. of, in insulating oils)
IT	Thiols (detn. of, in jet fuels)
IT	Hydrocarbon oils (detn. of, in paraffin waxes)
IT	Olefins Olefins (detn. of, in petroleum distillates)
IT	Ash(es) (detn. of, in petroleum oils)
IT	Acidity (detn. of, of benzene, toluene, etc.)
IT	Flammability (detn. of, of building materials)
IT	Heptane number Kauri-butanol value (detn. of, of hydrocarbon solvents)
IT	Precipitation number (detn. of, of lubricating oils)
IT	Bromine number (detn. of, of petroleum distillates)
IT	Saponification number (detn. of, of petroleum products)
IT	Acidity

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(detn. of, of residue from distn. of gasoline and petroleum solvents)

IT Acid number

Base number

Octane number or value

(detn. of, standards for)

IT Hydrogen-ion concentration

(detn. of, with glass electrode)

IT Gasoline

Kerosine

(distn. of, standards for)

IT Naphtha

(distn. test for)

IT Dust

(formation of, by coal and coke, detn. of)

IT Oxidation

(gasoline stability to, test for)

IT Electrodes

(glass, in pH detn.)

IT Lubricants

(greases, standards and tests for)

IT Gasoline

(gum detn. in)

IT Insulators (electric)

(hydrocarbon-wax testing for)

IT Detonation

(in engines, testing)

IT Viscosity

(kinematic, conversion to Saybolt)

IT Softening point

(measurement of)

IT Freezing points

(measurement of, and testing purity)

IT Dispersion (of rays or waves)

(measurement of, by hydrocarbon liquids)

IT Freezing points

(measurement of, of antifreezes)

IT Boiling points

(measurement of, of butadiene)

IT Foaming

(measurement of, of crankcase oils)

IT Dielectric constants

(measurement of, of elec. insulators)

IT Volume

(measurement of, of fuel gas)

IT Calorific value

(measurement of, of fuels)

IT Color(s)

(measurement of, of fuels and petroleum oil)

IT Refractive index

(measurement of, of hydrocarbon liquids)

IT Color(s)

(measurement of, of industrial hydrocarbons)

IT Dielectric strength

Electric power factor

(measurement of, of insulating oils)

IT Heat of combustion

(measurement of, of liquids)

IT Dropping point

(measurement of, of lubricating grease)

IT Penetration

Viscosity

STN Columbus

(measurement of, of lubricating greases)
IT Color(s)
 (measurement of, of lubricating oil and petrolatum)
IT Melting points
 (measurement of, of microcryst. and paraffin waxes and petrolatum)
IT Interfacial tension
 (measurement of, of oil against H2O)
IT Penetration
Solidification points
 (measurement of, of petrolatum)
IT Temperature
Volume
 (measurement of, of petroleum and its products)
IT Density
 (measurement of, of petroleum and its products, standards for)
IT Vapor pressure
 (measurement of, of petroleum products)
IT Density
 (measurement of, of petroleum products, etc.)
IT Cloud point
Fire points
Flash point
Pour point
Viscosity
 (measurement of, standards for)
IT Sealing compositions
 (mineral oil, detn. of burning qualities of)
IT Density
Flow
Screening
Weathering
 (nomenclature of)
IT Sampling
 (of antifreezes and natural gas, standards for)
IT Nomenclature
Sampling
 (of coal and coke)
IT Grinding
 (of coal, testing for)
IT Nomenclature
 (of conditioning, d., rheological properties, screening and weathering)
IT Sampling
 (of elec. insulating oils)
IT Sampling
 (of fuel gas)
IT Combustion
 (of kerosine, mineral seal oil and longburning oil, testing of)
IT Nomenclature
 (of petroleum)
IT Sampling
 (of petroleum and its products)
IT Oxidation
 (of steam-turbine oils (inhibited), measurement of)
IT Electric circuit breakers
 (oil for, standards for)
IT Sprays
 (oils for, standards for)
IT Sulfonic acids
 (petroleum, standards for)
IT Solvents
 (petroleum, standards for acidity of residue from distn. of)
IT Lubricants

STN Columbus

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        (precipitation no. of, detn. of)
IT  Corrosion
    (prevention of, by steam-turbine oils, detn. of)
IT  Asphalt
    (products from, standards for)
IT  Nomenclature
    (rheological)
IT  Natural gas
    (sampling of, standards for)
IT  Lacquers
    (solvents and thinners for, analysis and sampling of)
IT  Lacquers
    (solvents for, standards for)
IT  Ignition
    (spontaneous, temps. of petroleum products, detn. of)
IT  Antifreeze substances
    Antifreeze substances
    Antifreeze substances
    Coal
    Coke
        Fuel gas
    Insulators (electric)
    Lubricants
    Lubricants
    Natural gas
    Paraffin wax and other hydrocarbon waxes
    Petrolatum
    Transformer oils
        (standards and tests for)
IT  Petroleum
    (standards and tests for products from)
IT  Askarels
    Fuels
    Fuels
    Gasoline
    Gasoline
    Hydrocarbons
    Hydrocarbons
    Hydrocarbons
    Naphtha
    Petroleum spirits
    Sieves
    Stoddard solvent
    Thermometers
        (standards for)
IT  Petroleum
    Petroleum
        (standards for, and its products)
IT  Lubricants
    (sulfur detn. in)
IT  Petroleum
    (temp. of, and its products, measurement of)
IT  Corrosion
    (testing corrodibility, of Cu)
IT  Fuel gas
    (vol. of samples of, detn. of)
IT  Bituminous materials
    (water detn. in)
IT  Reagents
    (water for)
IT  9004-70-0, Nitrocellulose
    (-dilig. power of hydrocarbon solvents, detn. of)

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STN Columbus

IT 540-84-1, Pentane, 2,2,4-trimethyl-
 (analysis of mixts. of heptane and)
 IT 142-82-5, Heptane
 (analysis of mixts. with iso octane)
 IT 7782-44-7, Oxygen
 (analysis, detn. in butadiene)
 IT 7704-34-9, Sulfur
 (analysis, detn. in elec. insulating oils)
 IT 7439-89-6, Iron 7782-50-5, Chlorine
 (analysis, detn. in lubricants)
 IT 7704-34-9, Sulfur
 (analysis, detn. in lubricants and petroleum products)
 IT 7440-23-5, Sodium
 (analysis, detn. in lubricating oil and additives)
 IT 7439-92-1, Lead 7440-50-8, Copper 7723-14-0, Phosphorous
 (analysis, detn. in lubricating oils)
 IT 1333-74-0, Hydrogen
 (analysis, detn. in petroleum distillates)
 IT 7704-34-9, Sulfur
 (analysis, detn. in petroleum products)
 IT 7732-18-5, Water
 (aviation-fuel tolerance to)
 IT 7440-50-8, Copper
 (corrosion of, test for)
 IT 98-29-3, Pyrocatechol, 4-tert-butyl-
 (detn. in butadiene)
 IT 110-02-1, Thiophene
 (detn. of, in benzene)
 IT 7732-18-5, Water
 (detn. of, in bituminous materials, standards for)
 IT 74-86-2, Acetylene
 (detn. of, in butadiene)
 IT 7732-18-5, Water
 (detn. of, in fuels (gaseous))
 IT 78-00-2, Lead, tetraethyl-
 (detn. of, in gasoline)
 IT 7446-09-5, Sulfur dioxide 7783-06-4, Hydrogen sulfide
 (detn. of, in industrial hydrocarbons)
 IT 71-43-2, Benzene 108-88-3, Toluene
 (detn. of, in petroleum distillates)
 IT 7732-18-5, Water
 (distd., for reagents, standards for)
 IT 7440-44-0, Carbon
 (residue of petroleum products, test for)
 IT 71-43-2, Benzene 106-99-0, 1,3-Butadiene 108-88-3, Toluene
 1330-20-7, Xylene
 (standards for)

L2 ANSWER 32 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1952:20598 CAPLUS

DN 46:20598

OREF 46:35541,3555a-b

TI Chemical process for removal of organic peroxides

IN Cohen, Charles A.

PA Standard Oil Development Co.

DT Patent

LA Unavailable

CC 10 (Organic Chemistry)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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STN Columbus

PI US 2565354 19510821 US
 AB Continuous feeding of 10 vols. isoprene contg. **peroxides** into 1 vol. aq. soln. (contg. Na₂S₂O₄ 5, NaHSO₃ 5, and Toluidine Blue (I) 0.0005 g. per 100 cc.) at 20° with a residence time of 15 min. gave a **peroxide-free** product. (**Peroxides** were detected with acidified KI soln. or by the bluish color with I; I will detect 2 p.p.m. active O). Butadiene was freed of **peroxides** by treatment with 10% aq. Na₂S₂O₄ (contg. also NaHSO₃) and a soln. of methylene blue oil-sol. petroleum **sulfonate** in a refined mineral oil of 100 sec. Saybolt at 100°F. as a mixing agent. An uninhibited **gasoline** stored in an Fe tank over an aq. layer contg. NaHSO₃, Na₂CO₃ to give alky., and 0.01% methylene blue, showed no **peroxides** during 1 yr. as long as an effective concn. of NaHSO₃ was present to maintain the dye in the form of the leuco base.

IT Olefins
 (peroxide removal from)

IT **Peroxides**
 (removal of, from olefins)

IT 78-79-5, Isoprene
 (peroxide removal from)

L2 ANSWER 33 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text

AN 1952:18944 CAPLUS
 DN 46:18944
 OREF 46:3256a-d
 TI Removal of **peroxides** from hydrocarbons
 IN Fetterly, Lloyd C.
 PA Shell Development Co.
 DT Patent
 LA Unavailable
 CC 22 (Petroleum, Lubricants, and Asphalt)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2545199		19510313	US	
AB	<p>Peroxides are removed from hydrocarbons by an aq. alk. soln. contg. reducing agents, "solutizing" agents, and oxidation catalysts. Unsatd. hydrocarbons, e.g. cracked gasoline, form peroxides on standing in contact with O. These are considered to be oxidized epoxides, rather than the usual dialkyl peroxides. Alkali-metal sulfides or mercaptides of 1-8 C atoms are suitable reducing agents. "Solutizing" agents (I) may be alkali-metal salts of water-insol. carboxylic acids, alkyl phenolates, alkali metal naphthenates or aryl sulfonates, or acid oil exts. from alkali treatment of oils contg. phenates and naphthenates. Without I the reaction is slower, especially with higher-boiling peroxides. The oxidation catalysts may be polyhydroxy benzene compds., e.g. pyrogallol, etc. These could be oxidized themselves by the peroxides, but are protected by the reducing agents present. Hydrocarbon extn. of mercaptans from the treating soln. is minimized by the use of C1 and C2 mercaptans. E.g., 4 samples of a cracked C6 fraction of peroxide no. 26 were treated with different treating solns., with peroxide no. after 6 min. as follows: 10% NaOH contg. 5% Na₂S.9H₂O (II) 10; II plus 0.2% pyrogallol 8.5; a strong acid oil ext. (III) contg. alkali alkyl phenolate solutizers 1% S as Na₂S, and 1.5% S as mercaptide, with no oxidation catalyst 3; a strong acid ext. similar to III but contg. 0.4% naturally occurring polyhydroxy benzene compds., 1.5.</p>				
IT	Oxidation				
	Oxidation				
	(by peroxides , in hydrocarbons with phenolic catalysts)				
IT	Ethers				
	(cyclic, removal of oxidized, from hydrocarbons)				
IT	Catalysts				

STN Columbus

(in oxidation, of peroxides in hydrocarbons, phenolic)
 IT Reducing agents
 Solutizers
 (in peroxide (org.) removal from hydrocarbons)
 IT Hydrocarbons
 (peroxide removal from)
 IT Gasoline
 (peroxide removal from cracked)
 IT Peroxides
 (removal of, from hydrocarbons)

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=> file stnguide
COST IN U.S. DOLLARS          SINCE FILE      TOTAL
                               ENTRY      SESSION
FULL ESTIMATED COST          102.63      102.84
```

```
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)  SINCE FILE      TOTAL
                                                ENTRY      SESSION
CA SUBSCRIBER PRICE                        -21.48      -21.48
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COST IN U.S. DOLLARS          SINCE FILE      TOTAL
                               ENTRY      SESSION
FULL ESTIMATED COST          1.38      104.22
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)  SINCE FILE      TOTAL
                                                ENTRY      SESSION
CA SUBSCRIBER PRICE                        0.00      -21.48
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FILE LAST UPDATED: 19 SEP 2003 <20030919/UP>
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=> s cn1271760/pn
L3          1 CN1271760/PN
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=> d all

L3 ANSWER 1 OF 1 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
Full Text

STN Columbus

AN 2001-169454 [18] WPIDS
 DNC C2001-050776
 TI Heavy oil additive preparation.
 DC H06
 IN TANG, L
 PA (TANG-I) TANG L
 CYC 1
 PI CN 1271760 A 20001101 (200118)* C10G031-08 <--
 ADT CN 1271760 A CN 2000-103245 20000320
 PRAI CN 2000-103245 20000320
 IC ICM C10G031-08
 AB CN 1271760 A UPAB: 20010402
 NOVELTY - An energy-saving additive for heavy oil is prepared from activated carbon, potassium permanganate, agar, soft paste, sodium dodecylbenzenesulfonate, hydrogen peroxide, ammonium perchlorate, pentaerythritol, oil, potassium nitrate and sodium nitrate through proportioning, heating, stirring and cooling.
 ADVANTAGE - It can be used in a low dosage 2%, while imparting a high oil-saving effect (about 15%).
 Dwg.0/0
 FS CPI
 FA AB
 MC CPI: H06-D07

=> s cn1083514/pn
 L4 1 CN1083514/PN

=> d all

L4 ANSWER 1 OF 1 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
Full Text
 AN 1995-179805 [24] WPIDS
 DNC C1995-083343
 TI Prepn. of fuel oil of motor-driven vehicle.
 DC H06
 IN SHAN, G; YU, Z
 PA (YUZZ-I) YU Z
 CYC 1
 PI CN 1083514 A 19940309 (199524)* C10L001-00 <--
 ADT CN 1083514 A CN 1993-116602 19930827
 PRAI CN 1993-116602 19930827
 IC ICM C10L001-00
 AB CN 1083514 A UPAB: 19950626
 A prepn. of fuel oil for motor vehicle uses some existent chemical raw materials in a certain proportion and is implemented at ordinary temp. and ordinary pressure. The fuel oil prepd. according to this method can be mixed with gasoline or diesel oil over a long period of time, and their proportion is limitless. The fuel oil also can be independently used.
 FS CPI
 FA AB
 MC CPI: H06-B05

=> s cn87108003/pn
 L5 1 CN87108003/PN

=> d all

L5 ANSWER 1 OF 1 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
Full Text
 AN 1989-185434 [26] WPIDS

STN Columbus

TI Internal combustion engine fuel compsn. - contains crude alcohol, water,
heavy hydrocarbon, hydroperoxide cpd. and sulph(on)ate contg. metal
ferrite, calcium and copper NoAbstract.

DC E17 H06

IN ZHAN, X

PA (ZHAN-I) ZHAN XIAOLING

CYC 1

PI CN 87108003 A 19880525 (198926)*

<--

ADT CN 87108003 A CN 1987-108003 19871124

PRAI CN 1987-108003 19871124

IC C10L001-04

FS CPI

FA NOAB

MC CPI: E08-D02; E10-E02E; E34-D02; E35-A; E35-U01; H06-B01

=> s cn1004006/pn

L6 0 CN1004006/PN

=> s cn01004006/pn

L7 0 CN01004006/PN
(CN1004006/PN)

=> s cn10004006/pn

L8 0 CN10004006/PN

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